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Comments on the Chesapeake Bay Draft TMDL
Docket #: EPA-R03-oW-2010-0736

On behalf of the State of New York I am submitting the enclosed comments on the Draft Total Maximum Daily Load (TMDL) for Chesapeake Bay. New York appreciates the challenge US Environmental Protection Agency (EPA) faces in developing the TMDL, given the fact that it encompasses multiple States with drastically different circumstances in relation to land use/pollutant loadings, non-tidal tributary water quality, and uses of the impaired Chesapeake Bay and its tidal tributaries. New York's objective in submitting these comments underscores its strong desire to continue to assist in the restoration of the Chesapeake Bay, while at the same time ensuring a fair and effective means to do so. In recognition of the precedence of established TMDLs, and the way in which the Chesapeake Bay TMDL may affect economic opportunities in the Southern Tier region of New York, it is imperative that the State of New York fully identify its concerns over certain aspects of the Draft TMDL.

As drafted, New York's primary concern with the TMDL is that EPA applied an overall uniform approach that does not fully take into account the unique circumstances found in the New York portion of the watershed, and the changes that have occurred throughout the watershed since 1985 when Bay impairments became widely known. As a result, the Draft TMDL requires a disproportionate and inequitable amount of pollution reduction from New York. Given this State's lack of formal involvement in the Bay program and the fact that New York was not a party to the various federal investigations and court orders spurring development of the Chesapeake Bay TMDL, the accountability framework that EPA has proposed seems inequitable.

New York recognizes the importance of the Chesapeake Bay restoration, the interrelation of nutrient and sediment pollution sources above and below the fall line and within the Bay itself, and the large volume of fresh water the Susquehanna River discharges to the Bay. New York honors its time-tested obligation to protect water resources within its borders, as well as water quality downstream, and it will continue to voluntarily implement a Bay restoration program to improve water quality in the Bay. New York is not opposed to entering into a future agreement with EPA to formalize its efforts to restore the Bay, but New York cannot agree to the allocations in this Draft TMDL. New York looks forward to cooperating with EPA and the Bay States in a fair and equitable partnership to protect the Chesapeake Bay.

Thank you for the opportunity to submit public comments on the draft TMDL.

Sincerely,

Peter M. Iwanowicz

40 years of stewardship 1970-2010

New York State Department of Environmental Conservation
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Executive Summary

- **EPA does not demonstrate legal authority to bind NY as part of the Bay TMDL**
  - In the Bay watershed, NY has no stream impairments due to nutrients on EPA's approved impaired waters list.
  - EPA has failed to demonstrate how the CWA authorizes it to compel NY to comply with a TMDL established with respect to a water body located almost 400 miles away from and entirely outside of NY.
  - NY is participating voluntarily as a good neighbor state pursuant to the 2000 MOU, a document that does not bind NY to a particular course of action to be mandated by EPA.
  - EPA is deviating from the criteria approved in establishing the LI Sound TMDL.

- **New York Waters are Already Clean**
  - If the bay had the same water quality as the water leaving NY, then the Bay would not be nutrient impaired.
  - NY's Clean Water Act program (CAFO, MS4, construction stormwater) already exceeds the standards established by the Federal government and many States.
  - NY is a national leader in the implementation of Clean Air Act programs.
  - Nitrogen air deposition from NY sources is already at minimal levels.

- **EPA's Proposed Allocation Formula is Grossly Unfair to New York**
  - Rewards significant population growth in MD & VA since 1985 and ignores NY for its population decline in the same time period.
  - Rewards significant growth in AFO/CAFOs in ND, PA, & VA since 1985, without recognizing that NY's farming population has declined by 30%.
  - Since 1985, the growth of baseline nutrient levels in Bay States exceeds the total levels attributable to NY in the watershed.
  - Fails to recognize that since 1985, the baseline "no action" nutrient level in NY has declined by 2.44 million pounds of nitrogen.
  - Treats all nutrient discharge technology to the Bay as worth the same, which is a bias against NY. EPA ignores the fact that reductions from NY are much harder to accomplish than reductions from other States given that NY's waters at issue are already clean.

- Establishes the same implementation deadlines for all jurisdictions, yet the Bay states have participated in the Chesapeake Bay Program since 1983.

• EPA's Stormwater Proposal is Excessive

- Requires vast retrofits to only a few urban areas at a cost of $400 million-2 billion
- Would require almost a zero discharge of runoff, which is stricter than any existing regulatory requirement (CWA, regulations, and permits)

• EPA's Agricultural Proposal for NY Would Hurt Farms

- Would necessitate that NY farms engage in interstate trading to offset nutrient loading. This would involve small farms buying credits from large WWTPs in MD & VA, which is only a paper loading reduction and no real benefit to the Bay.
- Treats 40 head farm like a permitted Large CAFO (700+ dairy cows) by requiring strict implementation of costly management practices.
- Fails to account for a 30% decrease in farm animals in the Southern Tier since 1985.
- Incorrectly assumes that NY does not have enough land to support existing manure management from farms.
- Reliance on source reductions means that farms will go out of business in order for NY to meet its proposed allocation.

• EPA's Nitrogen Limits for Wastewater Provide Little Benefits to the Bay

- For NY wastewater treatment plants, 50-90% of nitrogen in the effluent does not reach the Bay due to natural in-stream processing
- EPA's requirements will result in additional treatment in NY plants and the reconstruction of entire facilities at a cost that could reach as high as $500 million with little benefits to the Bay.

• All Three Models Used By EPA in this Proposed TMDL have Serious Deficiencies

- Air modeling
  - Outdated and not well calibrated to ammonia
- Bay Watershed modeling
  - Seriously underestimates urban land, especially to the benefit of MD, VA and D.C.
  - Relies on estimates the tidal loads discharged below the fall line to the Bay by MD, VA, and D.C.
  - Use of county scale information for assessing farming data is problematic and does not work in NY.
  - Variations in river delivery factors that EPA cannot explain or justify scientifically.

- Bay Water Quality, Sediment Transport Model
    - Unexplained variations in recent results.
    - Not enough runs were conducted near cap load.
    - Not enough effort to determine sensitivity to Phosphorus vs. Nitrogen. reductions, particularly for the Susquehanna River.
    - Sediment sheds were never analyzed as originally planned.
    - Inadequate for processing nutrients within small tidal rivers.
    - No workable component to account for the benefits of filter feeders.

Legal Authority

I. EPA Appears to Lack the Requisite Authority to Require New York to Take Measures to Assist the Chesapeake Bay Border States in Meeting the TMDL for the Bay

EPA has acknowledged at numerous points during this process the uniqueness of the Chesapeake Bay watershed and the complicating factors surrounding establishment of a TMDL for the Bay. See Draft TMDL at iv ("Chesapeake Bay TMDL is unique because of [its] extensive measures . . ."); id. at 1-1 ("this TMDL is distinguished by the magnitude of the watershed it addresses . . "). This appears to be the very first time in the long history of the Clean Water Act ("CWA") that EPA is mandating that a State implement pollution reduction measures (i) with respect to pollution inputs into an in-state water body where no nutrient impairments exist and (ii) to assist in attaining a TMDL that EPA has established with respect to a water body located entirely outside of that State's jurisdiction. , It is incumbent on EPA to fully explain how the CWA provides it with the authority to act under the unique and novel circumstances at issue here. Stated another way, EPA cannot expect New York and its municipalities to spend billions of dollars in the midst of the current economic climate to implement the stringent measures required under the draft TMDL without a full understanding of the agency's authority to require such expenditures. As discussed below, EPA's general assertions of authority, see Draft TMDL at 1-2 to 1-17, do not meet the basic threshold.

A. EPA Has Not Adequately Demonstrated How the CWA Provides It With Authority To Compel New York To Comply with the Chesapeake Bay TMDL

1. CWA § 117, Which Appears To Set Forth The Sole Process Under the CWA to Restore Water Quality To The Bay, Is Inapplicable to New York.

EPA asserts that the CWA provides it "with ample authority to establish the Chesapeake Bay TMDL" for all of the States within the Bay watershed, including New York. Draft TMDL at 1-13. In support of this proposition, EPA points first to CWA § 117(g)(1), but that section applies only to "members of the Chesapeake Bay Commission [CEC]," as EPA itself acknowledges. Draft TMDL at 1-13. Although New York has sought to work cooperatively

with the CEC for several years, it has never been a member of the CEC and thus is not bound in any way by the requirements of § 117(g). On a related note, EPA acknowledges that § 117(g)(1) requires the CEC to develop a management plan "to achieve and maintain [among other things] the nutrient goals . . . for the quantity of nitrogen and phosphorus entering the Chesapeake Bay and its watershed . . ." Id. EPA concludes that the Chesapeake Bay TMDL represents "such a management plan." Id. Again, because New York is not a member of the CEC, it cannot be required to comply with a any plan developed under § 117(g) -- whether characterized as a TMDL or management plan.[1]

Not only must § 117(g) be read as inapplicable to New York, that provision appears to provide the primary, if not exclusive, process for restoring the Chesapeake Bay to health. The legislative history makes clear that, when it added § 117(g) to the CWA by amendment on November 7, 2000, (i) the States of Virginia, Maryland, Pennsylvania, Washington, D.C. (collectively, "the Bay States"), and EPA had already entered into four Chesapeake Bay Agreements, each of which had the stated aim of restoring water quality to the Bay, (ii) Congress understood that the "Bay watershed covers 64,000 square miles including areas of . . . New York," and (iii) New York had entered into a Memorandum of Understanding ("MOU"), agreeing to cooperate with EPA and the Bay States to reach targets set for 2010. See P.L. 106-457, Estuaries & Clean Water Act of 2000, House Conf. Rep. No. 106-995, at 32. Despite its knowledge of the circumstances surrounding restoration efforts with respect to the Bay, however, Congress specifically did not require New York's involvement in that process. To the contrary, § 117(b), also added in 2000, requires EPA to "continue the Chesapeake Bay Program," a program of which New York was not a participant at that time.

Congress' decision to require only the Bay States to participate in restoring the Bay should not be surprising considering that all of the Bay States (i) border the Chesapeake Bay and thus will benefit economically from its restoration, and (ii) have for decades been in violation of water quality standards for the Bay, as well as the tributaries that flow directly into it. By contrast, the waters of the Susquehanna and Chemung Rivers when leaving New York are about 400 miles away from the Chesapeake Bay, and thus restoration of the Bay will provide zero economic benefit to New York. Additionally, all of New York's segments of the Susquehanna and Chemung Rivers are not nutrient impaired. Given the complicated economic, geographical, allocational, and compliance issues associated with assessing each of the State's roles in restoring the Bay and Congress' clear understanding of those issues when it added § 117(g), Congress' decision not to require New York's participation in the Bay's restoration must be seen as intentional. Indeed, EPA's determination to assert sole authority to make these complicated decisions for New York, and over New York's objections, appears to be well beyond the providence of EPA's authority. In sum, EPA cannot now defy Congress' intent in enacting § 117(g) by mandating that New York take a specific course of action with respect to restoring the Bay.

2. The Requirements Specified Under CWA § 303(d) Are Tied Solely To The States Where The Impaired Water Is Located.

[1] New York notes its disagreement with EPA's assertion that the TMDL itself is a management plan for the Bay.

EPA next cites generally to CWA § 303(d), see Draft TMDL at 1-13, but makes no effort to show how the actual language of that section provides EPA with authority to require a State to take measures to assist in attaining the TMDL established for a water body that is located entirely outside of that State's jurisdiction. The plain language of § 303(d), however, does not appear to provide EPA with any such authority. Section 303(d) is very specific in terms of the States over which EPA has authority: All requirements are tied to the States where the impaired waters are located. Under this interpretation, because the Chesapeake Bay is located far outside of New York's jurisdiction, New York cannot be required to comply with a TMDL established for the Bay.[2]

As a general matter, the CWA provides a two pronged approach to restoring and maintaining water quality in the nation's waters: requiring effluent limitations from point source discharges; and requiring all "waters within [a State's] boundaries" to meet water quality standards established for such waters. Friends of the Earth v. EPA, 333 F.3d 184, 185-86 (D.C. Cir. 2003); 33 U.S.C. §§ 1311(b)(1)(A) and (B); 1313(d)(1)(A). The TMDL requirement of § 303(d), in turn, is triggered only with respect to "those waters within [a State's] boundaries for which the effluent limitations required under section 1311(a)(1)(A) and section 1311(a)(1)(B) . . . are not stringent enough to implement any water quality standard applicable to such waters." (Emphasis added). Here, all segments of the Susquehanna and Chemung Rivers located within New York are achieving nutrient-based water quality standards established for those waterbodies. Thus, the CWA does not require -- and EPA does not otherwise allege -- that New York must establish a TMDL for its segments of the Susquehanna and Chemung Rivers. Indeed, with one minor exception,[3] it appears as though a State has no obligations under § 303 with respect to water bodies that meet water quality standards.

Nor does it appear that EPA can require New York to take measures pursuant to CWA § 303(d) to assist other States in attaining water quality standards to be established for the Bay -- a water body located entirely beyond New York's jurisdiction. The structure of § 303(d) suggests that Congress did not intend the TMDL process to be used to require measures to be implemented with respect to remote water bodies, such as New York's portion of the Susquehanna and Chemung Rivers. Again, all of the requirements in § 303(d) are attached only to the State where the impaired water body is located. Thus, for example, under § 303(d)(1)(C), each State shall identify only "those waters within its boundaries for which effluent limitations . . . are not stringent enough to implement any water quality standard . . ." 33 U.S.C. § 1313(d)(1)(A) (emphasis added). With respect to such waters, the applicable State "shall establish for the waters identified in paragraph (1)(A) of this subsection, . . . the total maximum

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[2] The cases that EPA cites on page 1-13 (fn. 8) of the draft TMDL are inapposite to the situation here. In Dioxin/Organochlorine Center v. Clarke, 57 F.3d 1517 (9th Cir. 1995), although the applicable water body flowed through 3-separate States, the court made clear that all segments of the water body were violating applicable water quality standards thus triggering the TMDL requirement for all of the States involved. Id. at 1520 ("[o]nce the states had made th[e] finding under § 1313(d)(1)(A), the states, pursuant to § 1313(d)(1)(C), or, the EPA, pursuant to § 1313(d)(2), were required to establish a [TMDL]"). The identical situation occurred in Scott v. City of Hammond, 741 F.2d 992 (7th Cir. 1984) and American Canoe Ass'n v. EPA, 54 F.Supp.2d 621 (E.D. Va. 1999), where the water bodies at issue were impaired, thus triggering the TMDL requirement for the States where the impaired water bodies are located.

[3] Section § 303(c) of the CWA requires each State to periodically review water quality standards for each of the waters within its boundaries.

daily load" for the pollutants at issue. Id § 1313(d)(1)(C) (emphasis added). In other words, Congress made it incumbent on the State where the impaired water body is located to establish a TMDL for that water body. In no way, however, would that State have the authority either under the CWA or U.S. Constitution to impose pollutant load restrictions with respect to another State's sources of pollution.[4]

In this matter, EPA is asserting authority to establish its own TMDL for the Chesapeake Bay as a substitute for the TMDL that the Bay States have long been required, but have failed, to establish. Nevertheless, even under these circumstances, the CWA constrains EPA's authority, providing that (i) the agency is authorized to "establish such loads for such water as [it] determines necessary to implement [applicable] water quality standards," and (ii) the State where the impaired water body is located shall then "incorporate [such loads] into its current [water quality management or "WQM"] plan." 33 U.S.C. §1313(d)(1)(D)(2) (emphasis added); see also 40 C.F.R. § 130.6. By specifying that any load restrictions adopted by EPA are to be incorporated solely within a WQM plan to be developed by the State where the impaired water body is located, Congress clearly indicated that, at least with respect to the TMDL process, only that State is to be involved in restoring the water body back to health. As much as EPA may desire otherwise, there appears to be no mechanism under CWA § 303(d) to compel a State to implement measures to meet a TMDL established for an impaired water body located entirely outside of that State's jurisdiction.[5]

B. EPA's Other Asserted Grounds Do Not Provide It With Authority Over New York

EPA asserts a litany of additional grounds of authority over all of the States within the Chesapeake Bay watershed, citing to an Executive Order and a number of consent decrees, settlement agreements, and MOUs. Draft TMDL at 1-3 to 1-17. Only one of the documents cited by EPA, however, has any relevance to New York: The 2000 Six-Jurisdiction MOU, the only document referenced by EPA that New York, through the appropriate official (the Governor), actually signed. Nevertheless, that MOU obligates New York simply to "[w]ork cooperatively to achieve the nutrient and sediment reduction targets necessary to achieve the goals of the clean Chesapeake Bay by 2010 . . ." Draft TMDL at 1-3. As discussed further below, New York has achieved significant reductions in both nitrogen and phosphorous inputs into its segments of the Susquehanna and Chemung Rivers since 2000 and certainly since 1985 when the Bay's impaired water quality was already well-known. New York made those

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[4] On a related note, the CWA makes clear that a State remains free to cooperate with other States on such matters and even to enter into an agreement but that such an agreement would only be binding "unless and until it has been approved by the Congress." CWA § 103(b), 33 U.S.C. § 1253(b). New York has not entered into any such agreement.

[5] Perhaps recognizing that the WQM planning requirements associated with the Bay are not applicable to New York, EPA has established an alternative planning process, under which each of the States is to submit a "watershed implementation plan" or "WIP" as the mechanism to implement its allocation of the TMDL. See Draft TMDL at vii ("The cornerstone of the accountability framework is the jurisdictions' development of . . . WIPs, which serve as roadmaps for how and when a jurisdiction plans to meet its pollution allocations under the TMDL.). Notably, EPA is not making each of the State's WIPs a requirement of the final TMDL, at least tacitly recognizing that the WIPs are neither contemplated, nor enforceable, under the CWA.

reductions voluntarily to assist its sister States in cleaning up the Bay. Nothing in the 2000 MOU requires New York to do anything more. Certainly, New York never intended EPA to interpret its cooperation efforts as somehow allowing it to impose on New York a specific and unjustified course of action.

EPA cites to several additional documents as proof of supposed oral agreements made by various State employees at unspecified meetings but none of those documents were written or signed by officials that have authority to bind New York. See, e.g., Memorandum by W. Tayloe Murphy, Chair Chesapeake Bay Program Principals' Staff Committee, dated April 25, 2003 (Mr. Murphy has no authority to bind New York); EPA Reg. 3, "Setting & Allocating the Chesapeake Bay Basin Nutrient & Sediment Loads," Dec. 2003 (EPA Region 3 has no authority over New York and certainly cannot bind it through its own paper dealing with technical allocation issues). EPA goes as far as to cite to meeting minutes as proof that "the seven watershed jurisdictions and EPA reached consensus that EPA would establish the Bay TMDL on behalf of the jurisdictions . . ." See Draft TMDL at 1-5 (citing to "Meeting Summary for the Chesapeake Bay Program Principals' Staff Committee Annapolis Friends Meeting House, Annapolis, MD, October 1, 2007"). But there is no proof that any New York official even attended the meeting referenced and, even if one did, s/he would have no authority to bind New York to a particular course of action by oral agreement.

New York has continued voluntarily to participate in the TMDL process based on its understanding that there would be an equitable assessment of each State's final allocations of allowable nitrogen and phosphorous inputs into the Bay watershed. Indeed, New York's voluntary participation has always been contingent on EPA's application of a methodology that properly considers what it believed to be the two most important allocation criteria: (i) that "States without tidal waters – Pennsylvania, New York and West Virginia – would be provided some relief . . . since they do not benefit as directly from improved water quality in the Bay and its tidal tributaries," and (ii) that "[p]revious nutrient reductions would be credited towards achievement of the cap load." See Murphy Memo, at 2.[6] Unfortunately, EPA has severely misapplied these criteria in a manner that results -- at least in the Draft TMDL -- in New York having to reduce its nitrogen and phosphorous point and nonpoint inputs by a greater percentage than virtually all of the other States and from a much lower baseline. This outcome alone shows the unreasonableness of EPA's approach, at least with respect to New York.

C. Congress Recently Proposed Legislation To Provide EPA With The Authority It Currently Claims To Have Over New York

EPA's assertion that it has authority over New York through the Bay TMDL process also appears to be in conflict with Congress' recently proposed amendments to CWA § 117. See "Chesapeake Clean Water and Ecosystem Restoration Act of 2009," H.R. 3852, 111th Cong., 1st Sess. (Oct. 20, 2009). Under the proposed amendments, (i) New York would explicitly be

[6] For example, at a Chesapeake Bay Partnership Principals' Staff Committee Meeting, on Oct. 23, 2009, James H. Tierney, an official with the New York State Dep't of Environmental Conservation, "[e]xpressed concern" about the various options EPA was exploring, noting that, while New York was "willing to explore [its] participation in the TMDL, New York has not agreed to participate in the legally binding TMDL." See Mtg. Sum. at 5 (found at http://archive.chesapeakebay.net/pubs/calendar/PSC_10-23-09_Minutes_1_10431.pdf).

required to comply with a modified CWA § 117, (ii) a new definition of "TMDL" would allow EPA to impose load restrictions from all States within the Chesapeake Bay watershed, including New York, and (iii) all such States, including New York, would be required to develop and implement management plans to, among other things, achieve and maintain "water quality requirements necessary to restore living resources in the Chesapeake Bay ecosystem." Id. CWA § 117(a)(8)(A), (a)(16), (g)(1) (proposed). The proposed amendments -- not yet passed -- would provide EPA with the identical authority it currently seeks to impose on New York. Obviously, if EPA already had such authority, there would be no need for the amendments.

II. EPA Has Failed to Adequately Explain Why It Deviated From the Procedure and Criteria Used to Establish the Long Island Sound TMDL

There appear to be only two nutrient-based TMDLs that have addressed pollutant inputs from upstream sources: the LI Sound TMDL and the Chesapeake Bay TMDL. The procedure and criteria used to establish the LI Sound and Chesapeake TMDLs, however, appear to be vastly different in a way that is inequitable to New York. EPA has failed to either note these differences or make any effort to explain why a different procedure and set of criteria are necessary in mandating New York's immediate participation in the Chesapeake Bay TMDL.

A. EPA Did Not Mandate Upstream Reductions in Approving the LI Sound TMDL.

The draft-version of the LI Sound considered load reductions from three upstream states -- Massachusetts, Vermont, and New Hampshire. See LI TMDL at 32-33.[7] These upstream states, however, were quite concerned that New York and Connecticut lacked authority to require them to participate in the TMDL process. Vermont, for example, asserted that the two States lacked "authority to establish a wasteload allocation for nitrogen from the [upstream] states" and that "the CWA does not authorize one state to establish a TMDL for waters of another state." See "Response to Public Comments On the Long Island Sound Draft Total Maximum Daily Load Analysis To Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound," at 15 (December 2000).[8] In response, New York and Connecticut agreed, clarifying that (i) they lacked "the authority to require reductions of out-of-state sources," (ii) the "TMDL was attempting to provide potential out-of-state reduction scenarios to show how WQS could be met," and (iii) their intent was simply "to request EPA begin [a] dialog with neighboring states." Id. at 14-15.

Then in approving the LI Sound TMDL, EPA specifically did not mandate upstream reductions. See Notice from EPA's LI Sound Office, dated April 4, 2001 at 10.[9] To the contrary, in acknowledging that "some public comments on the draft TMDL questioned whether states have the authority to assign allocations to sources in other states," EPA took the position that it was "not approving the upstream nitrogen reductions as formal allocations but rather as reasonable assumptions on which the in basin reductions are based." Id. EPA went further to

[7] Found at http://www.dec.ny.gov/docs/water_pdf/tmdllis.pdf.
[8] Found at http://www.ct.gov/dep/lib/dep/water/lis_water_quality/nitrogen_control_program/pctmdl.pdf.
[9] Found at http://www.epa.gov/region1/eco/tmdl/pdfs/ct/longislandsound.pdf.

explain that it hoped only "to work[] with the three [upstream] states to address nitrogen loads affecting Long Island Sound," at least with respect to nonpoint source pollution. Id.[10] As an aside, there is no way to read CWA § 303(d) as providing EPA with authority over upstream states that EPA itself acknowledges the States lack. Nor is there any meaningful distinction between EPA's exercise of approval authority over a state-initiated TMDL as opposed to its exercise of authority to establish its own TMDL after finding a state-initiated TMDL defective. In other words, the authority EPA lacks with respect to approving a state-initiated TMDL, it also lacks with respect to substituting its own. But, even if EPA does have authority to require upstream reductions under CWA § 303(d), it certainly did not exercise that authority in the context of the LI Sound TMDL. By contrast, EPA is requiring immediate upstream reductions in the context of the Chesapeake Bay TMDL.

B. EPA Delayed Any Decision With Respect To Upstream Reductions in Approving the LI Sound TMDL.

Not only did EPA not require the upstream states to participate in the LI Sound TMDL, it approved a rather unspecified process that might, but not necessarily result in, the delayed participation of the upstream states. The LI Sound TMDL approved by EPA delayed even consideration of any upstream reductions until a planned "TMDL revision scheduled for 2003," the intent of which was to "describe a framework for managing these upstream sources and a schedule for implementing Phase IV nitrogen reduction actions." LI Sound TMDL at 46; see also id. at 33 ("Because New York and Connecticut cannot enforce nitrogen reductions from point and atmospheric sources in other states . . ., EPA will need to take the lead on future interstate WLA/LA needs."). Indeed, as of the filing of these comments, studies with respect to upstream reductions are continuing, but no TMDL revisions have yet been issued. See, e.g., EPA, "Total Maximum Daily Loads at Work in Connecticut & New York: Restoring the Long Island Sound While Saving Money, Lessons in Innovation and Collaboration," at 4 (Dec. 2009) (discussion of efforts to better define nitrogen sources and loads in the Upper Connecticut River Basin).[11] Thus, as things stand today, the upstream states have been allowed a nine-year delay in participating in the LI Sound TMDL. By contrast, EPA is not affording New York any additional time here.

C. While The LI Sound TMDL Used a Cost-Effectiveness Metric In Determining Reductions, the Draft Chesapeake Bay TMDL Specifically Avoids Consideration of Cost-Effectiveness.

New York and Connecticut examined two alternative scenarios in developing the nitrogen pollution reduction plan under the LI Sound TMDL: (i) a "limit of technology" or "LOT" approach; and (ii) a "cost sensitive scenario [that] identified a level of nitrogen reduction estimated to maximize increases in [pollutant] levels relative to the implementation cost." LI Sound TMDL at 22. The LOT scenario, examined first, "reflected loading of nitrogen at the current limits of control technology for point and nonpoint sources" at an estimated to cost $2.5

[10] EPA, which has direct authority to issue NPDES permits to dischargers in Massachusetts and New Hampshire, claimed it would use that authority, not authority under § 303(d), to reduce loads from those states. EPA Approval at 13.

[11] Found at http://www.epa.gov/owow/tmdl/tmdlsatwork/pdf/long_island_technical.pdf.

billion to implement. Id. By contrast, the cost-effectiveness approach showed that, "[a]lthough the water quality improvements were nearly the same as the LOT scenario, the estimated cost of implementing the point source actions was $650 million" -- a quarter of the cost associated with the LOT scenario. Id. at 23. Because of the vastly lower cost, the TMDL recommended -- and EPA approved -- "a 58.5 percent reduction in nitrogen from point and enriched nonpoint in-basin sources" as specified under the cost-sensitive scenario. Id.

EPA also allowed consideration of costs in examining the proposed participation of upstream states:

> In this case, the states estimated 25 percent reduction in nitrogen loads from point sources (primarily POTWs) is reasonable because this level of reduction has been demonstrated as feasible through Biological Nutrient Removal (BNR) retrofits of existing facilities. These low cost retrofits were implemented at numerous Connecticut POTWs during Phase II of the Long Island Sound nitrogen reduction program. The reductions achieved by these retrofits support the predicted 25 percent reduction by out-of-basin sources. EPA believes that these estimates of future reductions make sense.

EPA Approval at 13. Indeed, as noted, the proposed upstream point source reductions were based on the less stringent and costly controls already implemented by Connecticut during an earlier phase of the TMDL. Of course, Connecticut and New York are employing more stringent and costly controls under Phase III of the LI Sound TMDL.

By contrast, the Chesapeake Bay TMDL expressly does not consider cost-effectiveness. Moreover, under the E3 and "relative effectiveness" scenarios adopted by EPA, each of the States is theoretically being treated the same. As we explain below, however, these scenarios penalize New York in two ways that it has no control over:
(i) New York's mere proximity in the Chesapeake Bay watershed causes its nitrogen inputs to be more "valuable" than inputs from certain parts of the southern watershed; and (ii) New York's climate makes it much harder to reduce nitrogen from treatment facilities -- a matter we discuss in more detail below. The result is that New York -- which does not benefit from a restored Chesapeake Bay watershed -- is being required to implement measures that are not cost-effective, while other States within the watershed will be able to employ cost-effective controls.[12]

D. The Long Island Sound TMDL Is Based on Actual Discharges, while the Draft Chesapeake Bay TMDL Is Based on Designed Discharges

The LI TMDL is based on the actual average monthly flow of nitrogen into the Sound, as of the year 1990. Use of actual flow has had the benefit of the reductions called for under the TMDL being based on actual measurements of pollutants into the impaired water body. But it also has had the disadvantage of essentially requiring New York and Connecticut to cap point

[12] While EPA may claim that the offset provisions of the Draft TMDL allow for a "leveling of the playing field" when it comes to cost, the reality is that NY sources are in no position to purchase offsets. This issue is discussed further below.

source discharges into the Sound at 1990 levels, which has obviously made it difficult for the two States to deal with increased population and sewage discharges during that time frame.

By contrast, the Draft Chesapeake Bay TMDL is based on the design -- not actual -- flow of pollutants into the Bay. In other words, the Bay TMDL considers the capacity of all point sources -- such as sewage treatment plants -- rather than the actual average flow of these sources over a particular time period. This has created a perverse incentive for certain States within the Bay watershed to vastly increase and otherwise grow new capacity at sewage treatment plants, much of which remains under-utilized today. For example, as of 2008, Virginia's design wastewater load was 426 million gallons per day (mgd) greater than its actual load. That difference alone is six times the amount of New York's actual load.[13] The vast sewage treatment plant expansions in the Bay states provide Maryland and Virginia with a larger percentage of the total nutrient cap. New York is at a disadvantage because it cannot justify the expansion of sewage treatment plants in a population decline, nor can New York obtain the paper reduction credits given to the Bay states.

In sum, EPA cannot expect New York to comply with the extraordinary measures proposed under the Draft TMDL without a full understanding of EPA's authority to act in the specific circumstances at issue here. This is particularly so given that this appears to be the first time in the history of the federal CWA that EPA is mandating that a state implement measures to assist in achieving a TMDL established for a water body located entirely outside of that State's jurisdiction. The extremely general references that EPA provides in Sections 1-3 of the Draft TMDL—in the form of various CWA citations, agreements, and meeting minutes—do not meet the basic threshold. Again, this does not mean that New York has concluded that EPA lacks authority; only that EPA has not provided a sufficient explanation of its authority over New York's rivers as part of the agency's solution to restore the Chesapeake Bay. Nor does this mean that New York will not continue to cooperate and agree to take reasonable measures to help its sister States in cleaning up the Bay.

The Draft TMDL Proposes Inequitable Load Allocations for NY (TMDL Sections 1-3, 6, and Appendix K)

1. The Allocation Methodology is Unfair to NY

A. The 700,000 lbs/yr Dispensation to NY Is Not Nearly Enough

The Draft TMDL (at 6-43) allocates "an additional 700,000 pounds per year of nitrogen" above the allocation calculated for New York. While New York appreciates EPA's decision to allocate it additional nitrogen loading, we believe that the amount proposed in the draft is much too small

[13] Moreover, the Bay States have vastly increased their actual wastewater load since entry into the "1983 Chesapeake Bay Agreement," wherein they agreed that the Bay was in the midst of "an historical decline . . . and that a cooperative approach is needed address the extent, complexity, and sources of pollutants entering the Bay." For example, between 1985 and 2008, the States of Maryland and Virginia have increased their actual loads by 47% and 34%, respectively. See EPA Data Tables attached as Exhibit 1. While New York's actual load has very slightly increased, much of that increase is due to sewage treatment plants being expanded to treat additional stormwater flow with more stringent treatment methods; *e.g.*, the Binghamton-Johnson City wastewater treatment facility.

based on the principles that EPA applied. More importantly, the fact that EPA has not incorporated any of these important principals into the mathematical modeling that it performed in creating the allocations in the first place evidences the arbitrariness of EPA's approach.

First, of all, the nitrogen give-back does not actually amount to very much. New York's total nitrogen load into the Bay watershed for 2009 was 10,541,483 pounds. The model applied by EPA allocated to New York a load of 7,532,233 pounds (by 2025), meaning that New York was initially being asked to reduce its nitrogen load by 3,009,250 pounds per year. The 700,000 pound per year give-back thus constitutes only a 23% reduction. Additionally, the nitrogen give-back only puts New York on the equivalent ground as other States. For example, New York is being asked to reduce its nitrogen load (on the flawed design basis) by slightly more than Maryland: The Draft TMDL requires New York to reduce its load by 21.9% (2,309,250/10,541,483) and Maryland to reduce its load by 20.9% (10,335,361/49,421,206). Moreover, Maryland's 2009 edge of stream nitrogen load (on a per acre basis) is significantly higher than New York's -- 11.39 lbs/acre compared to 6 lbs per acre. This should result in it being easier for Maryland to reduce its load than New York. Even with the give-back, New York is being asked to do more and pay more on a per pound basis than other States.

Just as important, EPA cites four principles underlying the nitrogen load give-back: (i) New York contributes a "small portion[] of the overall nutrient delivered to the Bay" -- amounting to less than 5%; (ii) "the water quality from the streams and rivers coming from [New York's] headwaters is generally of better quality than that of downstream waters;" (iii) EPA's "allocation methodology accommodates to some extent future growth by providing WLAs for wastewater treatment facilities at design flow rather than actual flow," a methodology that "New York consider[s] . . . to be biased against Bay watershed jurisdictions that are growing relatively slowly, like New York;" and (iv) "[a] cleaner Bay provides greater benefit (in terms of commercial and recreational benefits of a cleaner bay) to the tidal jurisdictions than to the nontidal jurisdictions such as New York." Draft TMDL at 6-43 to 44.

All of these "principals" should have been the primary drivers of EPA's allocation methodology, not the basis for a small give-back at the end of the process. For example, the fact that the water quality of New York's streams is superior to the water quality of downstream waters means that it is much more costly on a per pound basis for New York as compared to the downstream States to reduce nutrients from its streams. EPA's methodology, however, ignores cost-effectiveness, the primary driver of the methodology approved by EPA in the context of the LI Sound TMDL. Similarly, as we have already noted, there is no question that EPA's determination to base the TMDL on "design flow," rather than "actual flow," allows the Bay States to benefit from "paper" nutrient reductions that alone are exponentially greater than New York's actual total nitrogen contribution to the Bay. This means that New York will be required to pay for real reductions, while some State will be able to simply write-off unused capacity for no cost and without any environmental benefit.

EPA's final principal deserves special attention. The fact is that a cleaner Bay does not provide just a "greater benefit . . . to the tidal jurisdictions;" it provides virtually all of the benefits to those jurisdictions. Certainly, New York wants the Bay to be restored and is willing to participate voluntarily in the Bay TMDL, consistent with its tradition of being a leader in

environmental protection and conservation. Nevertheless, EPA's acknowledgment that the Bay States benefit economically and recreationally, albeit only "greater" than New York, is the precise reason why EPA should not, at the very least, be applying a set of model criteria that treats all States the same. For example, one would expect that Maryland, Virginia, and their municipalities will one day recoup the billions spent now to clean up the Bay through a continued increase in population, property values, and income tax revenues from increased recreational use and a restored fishery. New York's Southern Tier, by contrast, has been losing population for decades and stands to gain little economically from reducing nutrient levels in streams that EPA acknowledges are already clean.

In sum, the model applied by EPA in determining the state-by-state allocations in the Draft TMDL has a resulted in an allocation that will have a disproportionate economic impact on New York. The small give-back proposed in the draft only slightly remedies that impact. EPA needs to reformulate the model in a manner that prioritizes the principals established on pages 6-43 and 44 of the Draft TMDL.

B. E3

Part of EPA's allocation formula includes the establishment of an upper limit of what is possible for each source sector (e.g., wastewater, agriculture, urban runoff, rural septic systems). EPA is proposing that E3 ("Everything by Everyone Everywhere") applications are uniform throughout the Bay watershed. Uniformity is unfair to New York because virtually all nutrient removal systems rely on biological and biochemical activity for treatment and these processes function more rapidly at warmer temperatures; making achievement of the same removal much harder in New York because the temperatures are colder. Cover cropping is another clear example of a practice less attainable in NY due to a colder climate and shorter growing season. By virtue of climate, New York is already at a treatment disadvantage.

EPA has also embedded within its model the assumption that New York has excess manure in our agricultural sector, which is wholly inaccurate. New York has a land base of about 74,000 available acres to support the number of animals located in our Southern Tier, whereas to meet the strict agronomic and technical requirements, New York would only require about 50,000 acres. It appears as though EPA expects additional nutrient management in New York, which would be an unnecessary increase in costs to New York farmers in an economically depressed region. This requirement is unjustified by EPA.

C. Usage of the 2010 Baseline is Arbitrary & Capricious

The Principals and Guidelines of the Allocation Methodology in Section 6-19 of the Draft TMDL provides that "(3) All tracked and reported reductions in nutrient loads are credited toward achieving final assigned loads." Part of EPA's allocation formula includes comparison to a "2010 no-action" baseline, which examines what today's loads would be without considering the implementation of any best management practices ("BMPs"). Utilizing 2010 instead of 1985 as the baseline simply rewards those Bay states that experienced population growth over the past 25 years and unfairly penalizes those headwater states like New York with population decreases in the Bay watershed. Since 1985, New York's population in its Southern Tier decreased from about 660,000 people to about 629,000 people. New York's animal population decreased 30%

since 1985, as farms have gone out of business or moved out of the Bay watershed. Since 1985, EPA's assessment of New York's tracked and recorded nitrogen loading to the Bay decreased by 2.44 million pounds and NY receives no credit for this reduction. EPA's allocation rewards Bay population growth in the Bay states since 1985.

Maryland and Virginia knew the Chesapeake Bay TMDL was being developed and not only added nutrient removal to some of their wastewater treatment plants, but also greatly expanded the plants' capacities. These wastewater expansions give Maryland and Virginia an advantage in the TMDL offset provisions because these Bay states have vast amounts of available but unused treatment capacity to offset new load sources. This is significant because the implicit margin of safety (MOS) EPA used in developing the TMDL assumed that all dischargers were actually discharging at capacity. Since this is not true for Maryland and Virginia, they will be able to meet a significant portion of their nutrient reduction allocation by merely deferring use of currently un-used capacity. This is a paperwork nutrient reduction, not an actual nutrient reduction, and will have no impact on the Bay. Additionally, Maryland and Virginia will not be penalized for the addition of millions of new residents since 1985 and the significantly increased loading to the Bay delivered via the additional new capacity that they actually do use. The 2010 "no-action" baseline is arbitrary and capricious because it unjustifiably starts the clock now and not in 1985.

D. Measurement Bias for NY

EPA determines the relative effectiveness of Bay improvements from river inputs based on where the river input enters the Bay. The Susquehanna River is the largest tributary to the Chesapeake Bay and therefore poses the highest impact to the Bay. Accordingly, because New York's Chemung and Susquehanna River basins eventually discharge to the Bay, EPA unfairly determined that headwater states, like New York, must do more than the Bay states to reduce loading to the Bay despite having a nutrient level that, if it were the same in the Bay, would cause no impairment in the Bay.

All of New York's load is actual measureable load because it all flows by river gauging and sampling stations that are unaffected by tides. However, much of the Bay's growing load from large urban population centers, such as Washington D.C. and Baltimore, and intense agricultural operations bordering the Bay is not directly measurable. This variance in methodology is because the adjacent Bay river systems are tidal, which means that the runoff load is only estimated by EPA from ambient monitoring and therefore subject to miscalculation and further misinterpretation. EPA has the capacity to employ scientific methodologies to measure tidal systems and should do so in order to develop more accurate and scientifically credible loading calculations. New York is further disadvantaged because its load is quantifiable.

E. Water Quality Inequities for NY

The primary factor applied by EPA in estimating allocations is the "relative effectiveness" of reductions of the particular pollutant from each source. EPA's application of this factor in determining each State's load allocation, however fails to account for the fact that it is harder to get clean water even cleaner than it is to get dirty water cleaner. EPA is insisting that

New York's waters be returned to pristine conditions. If the water leaving New York were being directly discharged to the Bay, the Bay would not be impaired. At the recent public meetings in New York, representatives of EPA conceded this fact. Overall, the Bay watershed in New York has one of the lowest nutrient loading per acre at about 6 pounds of nitrogen per acre. The Bay watershed in New York has virtually no 303(d) listed waters for nutrients. With the exception of a few ponds or lakes, which are closed ecosystems and do not discharge into the Susquehanna, there are no nutrient impairments in New York's Bay watershed. EPA's focus on "relative effectiveness" ignores the practicability of reducing nutrient loads by State, as well as the consequent inequity of one State having to pay much more than others on a per pound basis for nutrient reduction.

F. In-Basin Benefiters Should Pay for their Fair Share

The Principals and Guidelines of the Allocation Methodology in Section 6-19 of the Draft TMDL provides that "(2) Major river basins that contribute the most to the Bay water quality problems must do the most to resolve those problems on a pound by pound basis." Not only is New York a minor contributor to Bay impairment on a pound by pound basis, but New York is not a benefiter. Specifically, New York discharges approximately 4% of the Bay's Nitrogen, 5% of the Bay's Phosphorus, and 4% of the Bay's sediment loading. New York should not be required to pay for the in-basin benefiters' impairment of the Bay.

As per the New York City Watershed Filtration Avoidance Determination ("FAD"), the City of New York, as the downstream benefiter, pays for the enhanced protections (beyond local in-stream uses) in its watershed which are in the form of necessary infrastructure upgrades, source controls, stormwater capture, erosion and sediment controls, sampling, monitoring, and any other means needed from up-basin areas. It would be inequitable for the State of New York to require all municipalities located within the New York City Watershed to disproportionately fund a system where they reap little benefit. Similarly, it is unfair for New York to pay more than its fair share to address nutrient loading in the Bay when New York reaps no benefit from the Bay.

As a related matter, if New York is expected to be an equal partner in the Bay Program, then New York will need to receive equivalent restoration funding in order to further the implementation of BMPs in the Bay watershed. In prior years, federal restoration funding was targeted at Bay states to address the direct nutrient loading. New York, by virtue of its up-basin location, is at disadvantage for receiving implementation funding, but is expected to fund these proposed costly initiatives without the support of restoration funding.

2. Delivered Load Basis is Unfair to NY

New York's ability to meet load allocations is based on what EPA's models report was delivered to the Bay from New York. In order to determine New York's waste load and load allocations, EPA models how the load is conveyed from the Susquehanna and Chemung River Basins, through Pennsylvania, and finally discharged into the Bay. The model indicates if the Susquehanna River located in Pennsylvania gets cleaner over time, that more of New York's

load is delivered to the Bay. As such, EPA is judging New York's nutrient loading based on unknown conditions in Pennsylvania. These assumptions and this approach are wholly arbitrary and inequitable.

3. Interstate Trading is Biased Against NY Farmers & is Otherwise Ineffective

There are 2 kinds of trading programs being considered: (i) one for new and increased loadings only; and (ii) one that considers trades between sources contributing pollutant loadings to the same or different Bay segments - with important conditions. See Draft TMDL at 10-1 to 3. Neither program offers any help to New York and, if not properly formulated, will be grossly unfair to New York.

The first program will very likely not help NY because it is, unfortunately, very doubtful that sources within the Southern Tier will expand or that new sources will be added in the near future -- given the current population decline and basic demographics of the region. That is not the case with respect to Maryland and Virginia, which are both booming. Take Virginia, for example, its population has increased by over 40% since 1985.[14] Not surprisingly, its wastewater load has increased by a similar amount. [15] While Virginia's actual wastewater flow has been around 600 mgd over the last few years, however, its current design capacity is around 1,000 mgd, a difference of 400 mgd. Assuming the offset approach -- like the TMDL -- will be based on design flow, Virginia will have a significant amount of nitrogen load to use on new and expanded sources in-state. The same goes for other states that are growing. The Draft TMDL (at 6-44) acknowledges this point, as well as the fact that growing states are given a competitive advantage. Since reduction of "design" load is not the same as an actual reduction, this program may also result in paper reductions that have little to no environmental benefit.

The "Water Quality Trading" program discussed in the Draft TMDL (at 10-3) will be available to "sources contributing pollutant loadings to the same or different Bay segments, provided such trades do not cause or contribute to an exceedance of WQS in either receiving segment or anywhere else in the Bay watershed." Without knowing specifically how EPA will enforce the condition that such trades "not cause or contribute to exceedances of WQS," it is difficult to know precisely how this program will function. Nevertheless, it easy to see how this kind of program can be abused in a manner that prejudices New York-based sources, particularly farmers. Again, assuming that the Water Quality Trading Program is based on design, rather than, actual flow, large over-capacity sources in Virginia and Maryland will have a significant amount of "paper" loads to offer other sources that will find it more difficult to reduce pollutant inputs. For example, as discussed below, New York-based farmers will find it very difficult, if not impossible, to employ the kinds of practices that EPA's backstop approach will require.[16] This kind of a trading program may place NY farmers in the untenable position of purchasing offsets from wealthy sewer districts in Maryland and Virginia, which would result in

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[14] See Data Tables attached as Exhibit 1.

[15] Id.

[16] While New York's design wasterwater load is also greater than its actual load, the extra capacity is necessary to address significant stormwater and snowmelt flows from combined sewers located in New York's part of the watershed. In other words, the extra capacity is not available for trading.

only a paper reduction and have no discernible benefit to the Bay. Forcing New York farmers to purchase offsets will only result in driving many of them out of business.

4. EPA's Proposed Accountability Framework is Unfair to NY

New York was only brought into the Bay program in 2000 upon signing the multi-state MOU and committing to voluntary measures to help clean up the Bay. Conversely, the States of Maryland, Virginia, and the District of Columbia were brought into the Bay program as early as 1983 as signatories to the original Chesapeake Bay Agreement and as members of the Chesapeake Executive Council. New York completed and began to implement its Tributary Strategy in 2006 and this effort is ongoing today. EPA proposes to levy the same sanctions on all states, regardless of length of time in the Bay program, for the failure to meet the most recent loading allocations. EPA fails to take into account that New York has only been an active participant in the Bay program since its Tributary Strategy was finalized in 2006. New York is also not a party of the various Government Accountability Office and the EPA Inspector General's criticisms of stalled progress involving Bay restoration. EPA should tailor its accountability measure to fit particular circumstances and not throw its accountability "blanket" over the entire Chesapeake Bay watershed.

5. The TMDL Implementation Deadline is Unfair to NY

Despites the time differences on when each state entered the Bay restoration effort all states now have same 2025 deadline to complete implementation of the proposed TMDL. EPA requiring the same implementation deadline of all states unfairly gives the Bay states 40+yrs for implementation and the headwater states, like New York, only 25 years.

Stormwater

1. The Cost of Retrofits Outweighs the Benefits

The Chesapeake Bay Watershed Model predicts that, after implementation of New York's Watershed Implementation Plan, urban runoff will contribute approximately 5.7 % of New York's delivered Nitrogen load to the Bay. For this model, 120,285 acres are categorized as contributing urban runoff, 835,421 acres are categorized as agriculture, 3,020,810 are categorized as forest, and 35,357 non-tidal water deposition. To meet the loadings assigned to New York for Nitrogen in the TMDL, EPA has proposed that one half of the regulated (under MS4 permits) urban runoff acres be required to be retrofitted to address runoff, and that one quarter of presently unregulated urban runoff also be retrofitted to treat runoff. The total area to be retrofitted would be approximately is between 30,000acres and 60,000 acres.

EPA's Urban Stormwater Retrofits Manual (Appendix E, Page 2) provides a range of costs for Urban Stormwater Retrofits of $58,000 to $150,000 per imperious acre. If the urban runoff acres in the New York's portion of the Chesapeake Bay Watershed to be regulated is one quarter of the total acreage and those acreas are 25 % impervious on average (a conservative assumption), then the cost for retrofitting those areas is between $430 million and $1.3 billion. If the total acreage to be retrofitted is closer to 50% of the urban runoff acres, and a less

conservative (and more likely) assumption of 50% imperviousness were used the cost would be could double to closer to $2.2 billion.

Very roughly, the cost for retrofitting such large land areas would be between $0.4 and $2.23 billion. This proposed urban runoff retrofitting would only address a portion of the 5.7 percent of New York's Nitrogen load associated with urban runoff. Even a qualitative assessment suggests that the benefits of these retrofits are not justified by the costs. EPA's retrofit proposal is excessive.

2. EPA's Proposal Would Require Almost a Zero Discharge of Runoff

To require anything more than an un-measurable effect on loads to the Bay, an urban retrofit program would have to reduce runoff on retrofitted projects to zero or near zero. Such an aggressive program would mean that implementation costs for municipalities and other MS4s would be at the high end of the estimate, closer to $2 billion than $0.4 billion dollars. This EPA proposed backstop would go beyond any statutory or regulatory retrofit requirement that New York has imposed in any other watershed, including the New York City Watershed, which is being for the purpose of protecting human health. In other watersheds where New York has imposed retrofit requirements, the basis for the requirement was an assumption that the most likely retrofits would be in already publicly owned transportation corridors (ditch retrofits to water quality swales) and rooftop disconnection. Such practices would tend to be far less costly; taking advantage of 'low hanging fruit' opportunities.

New York has required some retrofits in watersheds where the portion of the loading associated with urban stormwater exceeds 10 % of the necessary load reductions. However, even where urban stormwater is a significant portion of the pollutant loading, New York does not consider it feasible or effective to rely on retrofits as the predominant means of meeting load reductions.

Agriculture

1. NY's Technical Standards Afford Superior Protection of the Environment.

There have been several recent media references to the shortcomings of phosphorus runoff management tools and how these tools allow continued degradation of the Chesapeake Bay. Contrary to some generalized statements made about phosphorus (P) indices in the public press, the New York P index (NY PI) does not allow unlimited application of manure. The NY PI, introduced in 2001, is an indicator of P loss potential and allows for ranking of fields for risk of loss of both particulate and soluble P forms, reflecting the predominant pathways for P runoff. The NY PI requires P application restrictions if P runoff potential is high and elimination of P application (manure or fertilizer) where P runoff risk potential is very high. Where P sources (soil, manure, fertilizer) and P transport risk potential are both high, the NY PI causes farms to change management of a field to reduce the risk of P loss or apply manure elsewhere. The NY PI and related guidance continue to undergo changes as insights are gained into P movement in our

landscapes but we are confident that the NY P index is an effective and appropriate tool for environmental protection.[17]

New York's CAFO farms must comply with stringent technical standards designed to afford superior protection of the environment. The technical standards take the form of USDA-NRCS conservation practice standards and state regulatory requirements, both of which exceed the minimum requirements set by EPA and USDA-NRCS and are tailored to be most effective for NYS conditions based on applied research from Cornell University – NYS' land grant university. As such, CAFO farms must utilize professional engineers in the design and implementation of their waste storage structures, must adhere to stringent setbacks for nutrient applications in farmlands adjacent to New York's waters and must make those applications in accordance with science-based nutrient management plans. In the New York State portion of the Chesapeake Bay watershed about 42% of the total animals units are regulated under the stringencies of the New York CAFO permit. They have had nutrient management plans, developed by a certified planner, for approximately 10 years. These plans, at a minimum, must be balanced for crop N needs in accordance with Land Grant guidelines and, if the NY PI score becomes high, or very high, P applications from manure or fertilizer must be limited (high) or cease altogether (very high). Each field on these farms needs to be evaluated for the NY PI and these assessments have often stimulated both redistribution within the farm and collaborative agreements between dairy farmers and their cash grain or vegetable producing neighbors. The CAFO program ensures that manure nutrients from large farms are recycled to grow crops rather than allowing those nutrients to reach the waters of New York State.[18] It is these stringent technical standards and the CAFO program's proven rate of implementation and enforcement that protects water quality within the Bay water shed and is responsible for a significant portion of the nutrient load reduction New York has been able to achieve in the last ten years.

Additionally, in New York, in order for farms to receive state or federal funding for implementation of best management practices those practices must be designed, constructed, operated and maintained in accordance with the same USDA-NRCS conservation practice standards required in the regulatory CAFO program. New York NRCS has, for the past four years, required producers to have a current CNMP to be eligible for EQIP funds to install livestock waste practices. Only practices required in the CNMP are eligible for EQIP funding. NRCS also provides funding for the development of CNMPs for producers who do not have them. Similarly, any practice installed under the AEM program must meet these same technical standards.

2. EPA is Confusing Regulation with Impact.

EPA, through this TMDL, has mistaken regulatory initiatives with solutions that will result in restoration of Chesapeake Bay. Many of the immediate Bay states have nutrient management programs "on the books" that do little to control manure distribution or reduce applications rates and are very liberal compared to New York's nutrient guidelines that are required to be implemented by all CAFOs and many AFOs. Consequently, regardless of barrier

[17] Czymmek, K.; Ketterings, Q.; Chase L., and, Geohring, L. The New York Phosphorus Site Index: The Sky is Not Fall. Chesapeake Bay Journal (2010).

[18] Id.

type BMPs, many farms and fields in the immediate Bay states receive nutrient rates that cannot be recycled by crops, and the Chesapeake Bay is still impaired. What EPA must do is peer beyond the regulatory veil and look to states with guidelines that actually protect water quality, not the status quo, with documented success and clean water and demand the same results from those states that continue to produce poor water quality. An unbiased evaluation of the nutrient management programs of the various Bay states would identify those states whose guidelines protect water quality, and provide a basis for a model program that would, if consistently and uniformly implemented, result in tangible benefits to the Bay. The deliverables in the state watershed implementation plans must include documentation of soil test nutrient levels being restored to agronomically appropriate levels without continued reliance on ammonia volatilization or multiple years worth of P application or P applications to crop removal regardless of how high the soil test P level is to make the nutrients "balance". It is unreasonable to expect the land in these areas to be able to recycle the nutrients, in particular the phosphorus, from many highly dense areas of animal agriculture including numerous landless poultry operations.

New York State animal agriculture is dominated by dairy cows and our dairy cow feeding programs are dominated by home grown forages. Home grown forage typically includes hay, hay crop silage and corn silage or the like. The typical dairy cow gets about one-half or more of her total diet from forage. Forage is bulky and heavy (often 60-70% water) and so is usually produced relatively close to where the cows are located. This means that most New York State dairy farms tend to have a fairly large land base (resulting in a relatively low animal density of 0.43 animal units per acre) that allows farmers to produce low cost feed nearby *AND* to use manure as the nutrient source for those crops in a reasonably balanced fashion, reducing the need for fertilizer.[19]

EPA's agricultural-related focus must be on the lands in the Chesapeake Bay watershed and respect that there are places that simply have too many animals for the associated land base. Unless EPA addresses the underlying problem with how some types of agriculture are organized in some areas, there is no suite of BMPs or backstop measures that can restore the Chesapeake Bay: there are simply too many manure nutrients chasing too little land to solve this with land-based BMPs alone.

Consider the following points:

1) New York producers have made huge strides in reducing fertilizer and feed use of P over the past 10 years. The amount of fertilizer P used on farms decreased from 35.1 million lb P in 1997 to 28.1 million lb of P in 2002, down to 23.2 million lb of P in 2006 amounting to a shift in average P fertilizer application rate from 9 lbs P/acre (equivalent to 21 lbs P fertilizer/acre) in 1997 to 6 lbs P/acre (equivalent to 15 lbs P fertilizer/acre) in 2006 (Figure 1). Combine these statistics with conservative estimates for reduction in feed P use by dairy farms (23%), amounting to a reduction of approximately 9 million pounds of P per year (about ½ of this reduction due to smaller dairy cow population, the other ½ due to active decisions by farm managers to reduce ration P levels), and it becomes

[19] Id.

evident that New York State producers have reduced P use by tens of millions of pounds per year in the last decade, while improving overall productivity as shown by an increase in the average crop yields and milk production over the same time period. These changes mean significantly less P is being brought into the state and hence less is prone to environmental loss.[20]

2) The reductions in P use in crop production and dairy rations have changed New York State from a P excess state just ten years ago to one that is now in approximate balance for agricultural P sources. This means that currently all the fertilizer and manure P managed by New York State farms equals the amount of P removed by crops. This does not mean that every field is in perfect P balance, but clearly shows that we do not have significant P excesses in this state.[21]

3. New York's Agricultural Environmental Management (AEM) Program

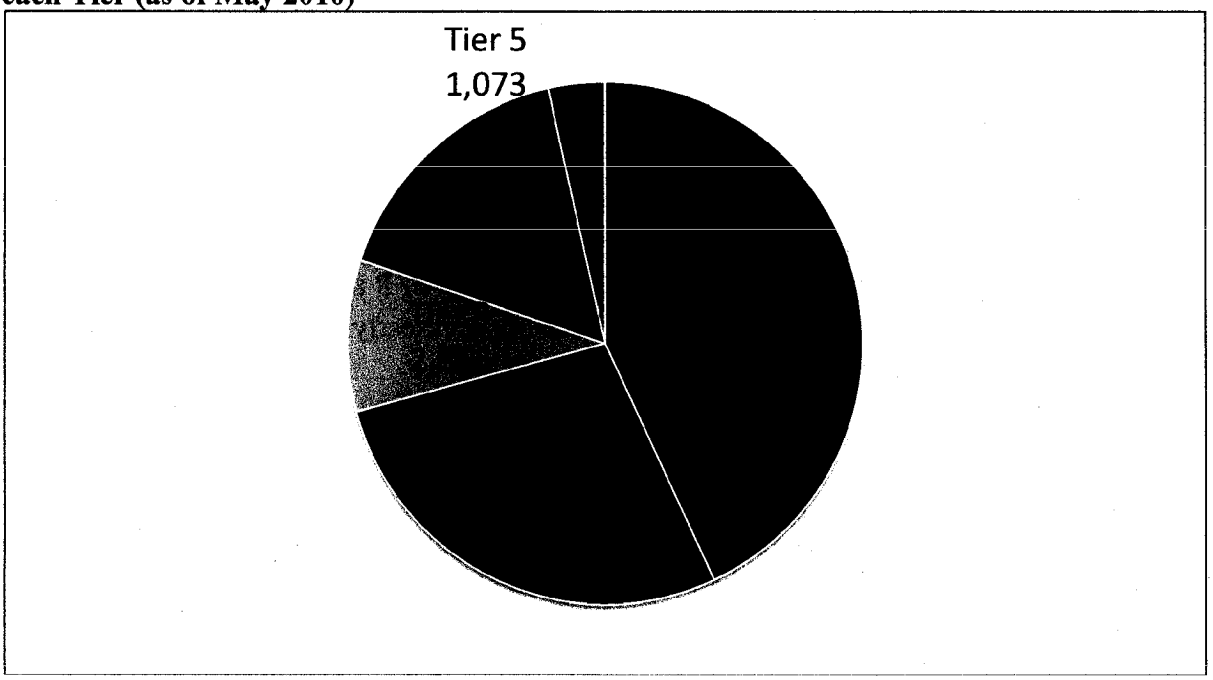
There are two primary and intertwined programs in New York that address agriculture: the New York CAFO regulatory program and the NY Agricultural Environmental Management Program. It is important to note that the New York CAFO program covers all farms with as few as 200 cows with binding permits, whereas under the USEPA program, only some farms with greater than 700 animals would be covered by regulatory permits. 65 CAFOs are permitted in the New York Chesapeake Bay watershed. New York's AEM program is currently working with 2,285 additional farms in the New York Chesapeake Bay watershed. New York's CAFO and AEM programs cover 95% of the dairies in the New York portion of the Chesapeake Bay watershed.

New York State supports "Environmentally and Economically Sustainable Agriculture."

New York farmers are active stewards. More than 12,000 farms statewide of all types and sizes are involved in AEM, a program that responds to environmental needs with cost effective improvements that benefits farms and communities. Using a voluntary, yet highly interactive, incentive-based approach to meet local, state and national water quality objectives, AEM has become the primary program for agricultural conservation in New York. AEM core concepts include an incentive-based approach, attending to specific farm needs and reducing famer liability by providing approved protocols to follow. AEM provides a coordinated and confidential planning assessment method that addresses watershed needs. Initiation of the assessment process is recognition of the impact farm activities have on the environment.

[20] Id.
[21] Id.

Progress through the AEM Tiers: number of NYS farms completed or under contract for each Tier (as of May 2010) [22i]



*actual number is higher, because 4,948 doesn't include farms implementing Tier 4 projects with AgNPS funds.

Tier 1: inventory of farm resources, environmental concerns and interests;
Tier 2: assessment of environmental risk and existing stewardship at the farm and watershed scales;
Tier 3: conservation planning to address environmental concerns with BMPs according to NRCS planning methods;
Tier 4: implementation of BMPs according to NRCS standards (*includes contractual obligations/timelines, use of certified professionals such as PEs, design documentation and on-going O&M requirements*); and
Tier 5: evaluation of BMPs to ensure on-going environmental protection.

4. New York State Environmental Protection Fund - Agricultural Non-Point Source Abatement and Control Grant Program (AgNPS)

- $81 million has been allocated through AgNPS for conservation practices over 16 rounds of funding since 1994.
- Plus $25 million in cash and in-kind investment by farmers.
- USDA-NRCS programs roughly match AgNPS funds annually.

AgNPS and NRCS programs are the major pathways for implementation and have contractual requirements during and after implementation.

[22] Agricultural Environmental Management Annual Reports 2005-2010.

Limits of Technology (LOT) for NY Wastewater Treatment Plants (WWTPs)

1. It is Harder for NY to Reduce Nitrogen at its Wastewater Treatment Plants

New York's climate affects the ability of its WWTPs located in the Southern Tier to meet the limit of technology effluent limits imposed by EPA backstops as set forth in the Draft TMDL Section 8-17. New York's climate is significantly colder than the climate in other parts of the Chesapeake Bay watershed because of its northern proximity and general higher elevation. This also contributes to colder temperatures in the winter and an overall shorter growing season. Winter temperatures of the wastewater, in NY's portion of the Bay watershed, averages to a seasonal low of nine degrees centigrade (48 Deg. F.). These low winter temperatures cause several problems at the WWTPs and directly affects the plants' ability to remove nutrients. The key relationships of temperature to nitrification rates are through Specific Growth Rate and the Half Velocity Constant. Denitrification rates are related to temperature via the Percent of Denitrification Growth Rate at 20 Degrees Centigrade. (Metcalf & Eddy, Wastewater Engineering 2d edition, 1979). Based upon this relationship, the Specific Growth Rate is essentially halved for each five degrees below 68 degrees F and is basically at or near zero at 50 degrees F or lower.

Basically articulated, this means that the lower the temperature, the slower the nitrogen removal process will function. A study showed that at the Upper Occoquan, Virginia wastewater treatment plant, temperatures of at or below 10 degrees C, the nitrite increased to nearly 10 mg/l/nitrite decreased to 3 mg/l, and Ammonium peaked at 10 mg/l. As can be seen from this data, nitrification failed due to the cold temperatures. Nitrogen removal is severely inhibited during periods of very low temperatures, and removal could even be inhibited during warmer weather, as it takes time for the proper culture of microorganisms to grow back after die off during the winter. WWTPs located in NY's Chesapeake Bay watershed may only be able to achieve the lowest effluent limits for nitrogen six months out of the year.

Another issue that affects the ability of the NY's WWTPs to meet effluent limits for nitrogen as low as three milligrams per liter (also known as the limit of technology or "LOT") is refractory nitrogen. Refractory nitrogen is the nitrogen remaining after treatment that is unable to be treated by the microorganisms in biological treatment systems. There can be up to one to three milligrams per liter of refractory nitrogen in wastewater effluent after advanced Biological Nutrient Removal treatment. Therefore, when effluent limits are at LOT, expressed as three milligrams per liter total nitrogen (see Draft TMDL at 8-17), the amount of refractory nitrogen can be equal to the effluent limit. Compliance under this situation would be virtually impossible. Also, as the lower limit is approached, more effort is required to remove more nitrogen.

2. The Cost of Achieving LOT for Nitrogen in NY is Astronomical

Based on the 20 year cost estimates for nitrogen removal to LOT by Stearns & Wheler for the CBP in 2005, it was estimated that the largest plants in NY's portion of the CBW would cost approximately $290 million in 2010 dollars. The S & W report did take into account local factors, such as temperature and labor rate, therefore, did predict higher costs than the earlier cost studies performed by the CBP. However, even the S & W reports are felt to underestimate what the actual costs would be.

Inadequate Modeling

1. **All three models used by EPA in this proposed TMDL have serious deficiencies:**
   - A. Air modeling
     - o Outdated
     - o Not well calibrated to ammonia
   - B. Watershed modeling
     - o Serious underestimates of urban land
     - o No calibration of loads from most urban land (below fall line)
     - o No accounting for reductions in atmospheric deposition upon impervious urban land.
     - o No recognition of a threshold of areal loading that forest have been shown to be able to process.
     - o Use of county scale information and other farming related issues
     - o Variations in delivery factors that EPA cannot explain or justify scientifically.
     - o Major unjustified swings in N loading predicted for NY by watershed models from v4.3 through 5.1, 5.2, and 5.3.

   - C. Bay Water Quality, Sediment Transport Model
     - o Variations in recent results
     - o Not enough runs near cap load
     - o Not enough effort to determine sensitivity to P vs N reductions, particularly for Susquehanna.
     - o Sediment sheds were never analyzed as originally planned.
     - o Inadequate for processing nutrients within small tidal rivers.
     - o No workable component to account for benefits of filter feeders.

A. Air modeling

The New York State Department of Environmental Conservation, Division of Air Resources ("DAR") reviewed the atmospheric deposition modeling component of the TMDL, which is detailed in Appendix L, "Setting the Chesapeake Bay Atmospheric Nitrogen Deposition Allocations." DAR is primarily concerned with two aspects of this TMDL. The first is that the emissions inventory and CMAQ modeling done by EPA in support of the TMDL are obsolete and not adequate to evaluate future emissions and nitrogen deposition. The CAIR and CAMR modeling was done in 2005 to support interstate trading rules that were rejected by courts

because it did not adequately address the transport of NOx and SO_2 emissions and did not require proper controls of mercury. The choice of 2002 as the base year and future scenarios based on the CAIR/CAMR modeling efforts appear to be out of date (ca. 2005). As such, the model projections do not include substantial "on-the-books" and "on-the-way" SOx and NOx emissions reductions, calling into question the usefulness of the results in the out years.

The second overarching concern involves the contribution of ammonium to total N deposition to the Bay. Although nitrate deposition is expected to continue decreasing in this region as a result of further NOx emissions reductions, ammonium deposition – especially in intensive agricultural areas – may be on the rise, and is becoming a larger portion of the total N loading. NOx emissions reductions alone will not be sufficient, and the EPA will need to consider more aggressive ammonia emissions reductions in order to achieve targeted N loading levels.

I. Wet Deposition Regression Model, pages L-6 to L-7

Figure L-6, which shows the locations of the monitors used to estimate the wet deposition loading, is missing the nine additional NTN sites – DE99, MD07, MD08, MD15, MD99, PA47, VA10, VA27, VA98, and VA99. Although DE99 and MD15 are shown as AIRMoN sites, it appears that they were transitioned to NTN sites around 2004.

More importantly, monitoring networks such as the NTN were established to characterize spatial and temporal trends in acidic deposition, and to track the effects of regulatory programs that primarily have targeted power plant emissions. A few sites, such as Washington Crossing, NJ (NJ99) and Beltsville, MD (MD99) are located in suburban areas, but a majority of the NTN sites are located in generally rural sites. There are large metropolitan areas in the Bay Watershed, and the EPA needs to demonstrate that this regression model can adequately characterize wet deposition in areas where motor vehicles and other urban sources are present.

II. Dry Deposition - Community Multi-scale Air Quality Model (CMAQ), page L-9

Because dry deposition is so difficult to measure, dry deposition estimates from CMAQ were used to estimate this portion of the N loading. But without adequate measurements of dry deposition, it is difficult to assess the reliability of these model estimates. It is also not clear how EPA derived at 2002 being an "average deposition year" – is this total N deposition?

While we cannot evaluate whether or not 2002 is an "average deposition year" from the standpoint of dry or total N deposition, we can examine wet deposition over the 1985-2005 period. Twenty-two of the NTN sites that were used for the wet deposition regression model had complete or near-complete data over the 21 years – KY22, MD13, NC03, NC34, NC35, NC36, NC41, NJ99, NY08, NY10, NY20, NY68, NY99, PA15, PA29, PA42, PA72, VA00, VA13, VA28, WV04, and WV18. Table 1 lists the N deposition in 2002 and the average N deposition from 1985-2005. At seven of these sites (NC36, NY08, NY20, NY68, VA00, VA28, and WV04) the total N deposition in 2002 was within 5% of the 1985-2005 average N deposition. However, at seven others (MD13, NC03, NC34, NC35, NY10, NY99, and WV18), the 2002 deposition was different than the 21-year average by ±15-36%. At MD13, NC34, and NY99 the 2002 deposition was the lowest annual deposition over the 21 years, while at NC03 and NY10 the 2002 deposition was the second highest value over the 21 years. Hence, while at about one-third of the NTN sites the 2002 wet N deposition was very close to their 21-year average levels,

at another third of the sites the 2002 wet N deposition was quite different than the respective average deposition levels. The EPA needs to justify why 2002 is an "average" year.

The notion of an "average deposition year" is further complicated by the fact that nitrate deposition is projected to decrease while ammonium deposition (at least in high ammonia emission regions) is likely to be increasing. Regulatory programs aimed at NOx reductions, whether tied to acid deposition or criteria pollutants (e.g. ozone, fine particulates), are leading to lower nitrate loadings, but have not targeted ammonia. Since the trends in nitrate and ammonium deposition are not consistent across the region, the EPA again needs to demonstrate what constitutes an "average deposition year."

III. Total Atmospheric Deposition Inputs of Nitrogen From Wet and Dry Deposition, page L-12

Several features in Figure L-8 are difficult to understand, including the relatively low values of N deposition in Lancaster County, PA and much of Delmarva. Figure 1, obtained from the NADP website (http://nadp.sws.uiuc.edu), displays the 2005 wet N deposition amounts across the US. Wet N deposition levels in these two regions are among the highest in the Chesapeake Bay watershed, at least for this particular year.

IV. The various CMAQ scenarios described on pages L-13 to L-15

The use of 2002 as a base year for this effort is inappropriate because of the age of the inventory and the numerous improvements to the inventory since that time. The year 2002 is now eight years past and EPA has developed more up-to-date inventories since that time, including 2005. Tools used to develop the 2002 inventories, such as the NONROAD model and the MOVES, have been improved or developed to better quantify emissions. It would be more appropriate to use a more recent year updated with the more refined and improved inventory techniques to estimate emissions in order to better evaluate deposition.

The projection inventories used to assess future N deposition are based on what EPA knew in 2005 and, therefore, woefully out of date. In fact, this modeling did not accurately reflect the state of controls and emissions requirements in New York at the time and this was never corrected. The CAIR and CAMR modeling does not adequately address EPA's own programs and requirements under the Clean Air Act. The projection inventories do not include (among other things) the updated CAFE standards for motor vehicle fuel mileage or the court ordered ICI Boiler MACT, Utility MACT or the transport rules. These programs will have significant impacts on the amount of NOx emissions to come from affected facilities in future years. Since 2005, the State of New York has implemented numerous emission control programs and these programs are not included in the projection inventories. This includes adopted measures such as:

- The Acid Deposition Reduction Program. This program required emission reductions of NOx and SO_2 from EGUs starting in 2004 and resulted in the installation of advanced controls around the state.
- NOx RACT. This includes several regulations that will require an update the control of NOx controls at large stationary combustion installations (boilers, turbines and engines), Portland cement plants, glass manufacturing plants, asphalt plants, and other process sources. These additional controls will be in place by mid-2014.

- CaLEV. This program represents New York's continued implementation of the California low emission vehicle program which is stricter than the federal Tier 2 Vehicle Rule for NOx and includes CO_2 standards.
- Consent Orders. Agreements with various companies to control emissions were not included in the CAIR/CAMR future year inventories and modeling (most notably agreements with NRG and AES). Since that time other substantial agreements have been reached and these also do not seem to be included in the future year analyses (e.g., Lafarge).

On Page L-13 of Appendix L it states that "(a)lthough CAIR has been remanded ... EPA anticipates that NOx emissions reductions close to those originally projected will occur." This is over simplification and fails to recognize that it matters WHERE emissions reductions occur. The CAIR rule was overturned because EPA failed to recognize this fact and by using this modeling in the TMDL analysis, EPA repeats this fundamental error here. In addition, EPA has acknowledged that the NOx emissions reductions in its Transport Rule (75 FR 45210) are insufficient to address transport for the 1997 ozone NAAQS for the New York City metropolitan area. Therefore, further NOx emissions reductions will need to be required in areas have a direct impact on nitrogen deposition in the Bay.

The "2020 Maximum Feasible Scenario" (pages L-14 to L-15) is not representative of what will be required to attain the future ozone NAAQS and seemingly demonstrates a lack of understanding of ozone transport. The OTC states have required low NOx burners (or equivalent emission rates) since 1995, and to suggest that this is advanced control is ludicrous. In addition, to limit the application of controls to existing and planned controls will not allow Northeastern states to adequately plan to meet future more restrictive standards.

To suggest that deeper nested ozone season caps will only be needed in the Northeast Ozone Transport Region does not recognize the true impact of the lower ozone NAAQS and the amount and distance of transported NOx emissions from electrical generation facilities. According to EPA's own January 19, 2010 proposal (75 FR 2938) ozone nonattainment will not only be a northeast and urban problem. Ozone nonattainment will be pervasive through the United States. The OTC states have done preliminary screening modeling that has been shared with EPA that shows across the board reductions in NOx emissions throughout the Eastern United States on the order of 70 % will be needed to meet the new ozone NAAQS. To address the transport of ozone and its precursors, EPA will need to require additional reductions in NOx emissions from states that significantly contribute or interfere with maintenance in downwind areas. EPA acknowledges this fact in its August 2, 2010 Transport Rule (75 FR 45210). These emissions reductions are more than likely to occur given the nature of the provisions of the Clean Air Act requiring states to develop plans and make federally enforceable emissions reductions to attain the NAAQS. These NOx reductions will have a substantial impact on nitrogen deposition in the Bay and its tributaries.

EPA has also not evaluated the impact of the recently adopted NO_2 NAAQS on NOx emissions. It is likely substantial NOx emissions reductions in urban areas affecting N deposition in the Bay will be required between now and 2020. This also needs to be assessed to develop a complete picture of future year scenarios.

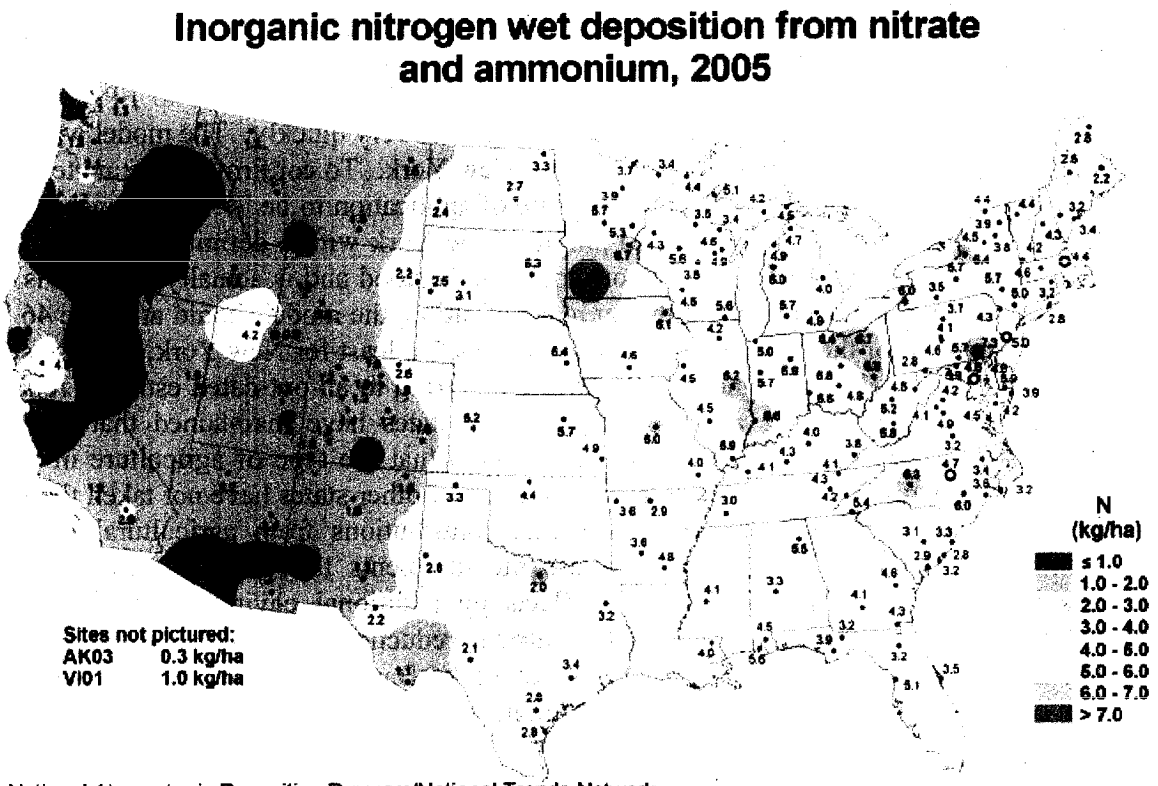
It is most disappointing to see EPA recycle some older air quality modeling to perform the analysis as important as the Chesapeake Bay TMDL. EPA's choice to use the CAIR/CAMR

modeling is most puzzling especially given the substantial effort EPA has undertaken to develop the supporting documentation for the Transport Rule. While EPA attempted to "update" the CAIR/CAMR analysis by estimating some new future year projection scenarios, the CAIR/CAMR modeling suffers from the fact that it has old base year data and uninformed or incomplete representations of future year scenarios.

Table 1. Wet N (NO_3^- + NH_4^+) deposition in 2002 and the 1985-2005 average, as well as the percent difference.

Site	2002 wet N deposition, kg/ha	1985-2005 average wet N deposition, kg/ha	Percent difference
KY22	4.86	4.39	+11%
MD13	3.77	5.02	-25%
NC03	4.68	4.03	+16%
NC34	3.39	4.80	-29%
NC35	5.75	4.96	+16%
NC36	4.11	4.21	-2%
NC41	4.59	4.89	-6%
NJ99	5.29	5.65	-6%
NY08	5.82	5.95	-2%
NY10	9.83	7.23	+36%
NY20	5.06	4.80	+5%
NY68	6.35	6.31	+1%
NY99	4.62	6.23	-26%
PA15	6.58	6.10	+8%
PA29	7.61	7.07	+8%
PA42	7.13	6.51	+10%
PA72	5.09	5.93	-14%
VA00	5.47	5.42	+1%
VA13	3.53	3.79	-7%
VA28	4.69	4.52	+4%
WV04	5.39	5.58	-3%
WV18	5.38	6.30	-15%

Figure 2. Wet N deposition, 2005.



B. Bay Watershed modeling

The Accuracy of the Model has not been Tested.

The extremely accelerated timeframe during which the TMDL was developed necessitates that EPA make unjustifiable compromises in quality and science. Locking the model down just a few months before the WIP submittal deadline has left states with only a few "runs" to base major decisions and milestone projections on for the next 15 years. This "rush" to finalize a TMDL disregards state requests for time to involve the public in this process and violates due process principles. The restoration of the Bay depends upon an accurate model, not a rushed model. . For example: the initial nitrogen target provided to NY by EPA on November 3, 2009 was 10.54 million pounds per year, yet on July 1, 2010, NY was informed by EPA that its nitrogen allocation was 8.23 million pounds per year, about 30% less, making model accuracy questionable and pre-planning impossible. For additional context, 10.54 is now the 2009 baseline from which the 60% reduction by 2017 is calculated.

I. Agricultural Concerns

The Model does not Accurately Depict In-Field Conditions.

The Bay Watershed model makes assumptions of pollutant loads that are not accurate in New York. The category "hay with nutrients" was originally modeled at 200 lbs nitrogen/acre. In March, 2010 New York's Upper Susquehanna Coalition (USC) expressed to EPA thatthis number was too high but EPA needed to generate an estimate very quickly. The model was then set at 80lbs nitrogen/acre for "hay with nutrients" for New York. To confirm this estimate, USC surveyed 13,000 acres of hay land and found the rate of application to be 79 lbs nitrogen / acre. In September, 2010 EPA was finally able to provide New York with a definition of "hay with nutrients", this was different than what was originally understood and is actually hay that is cut regardless if it had nutrients applied. With that new definition, the model should attribute 46 lbs nitrogen / acre applied for the category "hay with nutrients," at least for New York, because such a value is based on actual data. Ignoring data while deferring to an out-dated estimate renders EPA's model results unscientific and arbitrary. Other states have maintained that 200 lbs nitrogen / acre is accurate which leads to the assumption that the type of agriculture in those states is significantly different than that in New York or that other states have not taken the time or invested the resources to understand the actual contributions from agricultural sources. Consequently, when these states do make these measurements they will be credited with reductions in Chesapeake Bay loading that reflects no additional environmental protection efforts. This scenario, which is a paperwork nutrient reduction and not an actual nutrient reduction, and others like it, will not result in Chesapeake Bay restoration. Furthermore, the restoration of the Bay depends upon an accurate model, not a rushed model.

The Model does not Accurately Reflect the New York Portion of the Watershed.

No county in New York is wholly within the Chesapeake Bay Watershed. By proportioning animal numbers for partial counties, based on the portion of the agricultural land of those counties in the contributing drainage area, the model includes inaccuracies in the estimate of agricultural load to New York. EPA then compounds these inaccuracies by trying to apply county based statistics to farm specific situation such as AFOs and nutrient balances for manure spreading. This is part of the reason why there is no credit for basic "nutrient management" in v5.3 of the watershed model. The v5.3 model needs to be fixed so that when manure nutrients are applied agronomically on a farm, the model gives credit.

The Model does not Recognize the Differences between the Technical Standards for Agriculture in New York versus other Bay states.

As part of EPA's oversight responsibilities of the State NPDES programs for CAFOs, the Water Permits Division in EPA's Office of Water is currently reviewing all State approved technical standards. EPA plans to complete this national review of State technical standards by December 31, 2010. In a May 21, 2010 letter from Jeff Gratz, EPA Region 2, to Mark Klotz, NYSDEC Director for the Division of Water (see Exhibit 2 as attached), EPA acknowledges that proper technical standards are needed to ensure proper implementation of the concentrated animal feeding operations (CAFOs) National Pollutant Discharge Elimination System (NPDES) rules. Each State Director was required by 40CFR Part 123.36 to establish technical standards that meet the requirements of 40CFR 412.4(c)(2) by 2005. New York appreciates this effort by EPA to promote technical consistency as other States work to achieve the level of CAFO implementation and compliance accomplished in New York. However, this national recognition by EPA of inconsistencies between states must be reflected in the Chesapeake Bay TMDL

model. The current model erroneously assigns the same generic loads to agricultural best management practices in New York as other states. This does not reflect the superiority of New York's technical standards clearly recognized by EPA Region 2, or, more importantly, the very real differences in our farming systems here in NYS as compared to many other Bay states.

Providing alternative BMPs for credit in the model is an arduous and time-consuming process.

The EPA-approved protocol described in the April 2, 2010 *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans*, sets up a process that would necessitate state field compliance staff be re-deployed to submit voluminous paperwork in an "EPA-approved" format for New York to be properly credited for the already documented environmental stewardship happening on New York farms. As this is EPA's model, EPA must shoulder the responsibility of assuring model accuracy before the model is used to place additional regulatory controls on states.

Agricultural Census Data is Seriously Flawed

Because farming data is derived from the USDA agricultural census which is only developed at the county scale, using the model at anything less than county scale is seriously flawed. EPA has not provided any site specific information to quantify loads from AFO/CAFO (barnyards), but has instead used assumptions of average size of barnyard without any verification of the estimates.

II. Other Bay Watershed Modeling Deficiencies

Urban Land Use Problems

EPA's review of its urban land cover data shows that both pervious and impervious urban land uses are underestimated by a factor of 3 and 2, respectively. EPA has indicated that it is planning a fix to the Watershed Model next year, but because this fix would not occur prior to promulgation of this proposed TMDL, EPA has stated plans to modify the TMDL to include the fix. Because Bay states have much higher percentages of urban land, this model now underestimates their load and makes NY look like a relatively large contributor.

Most of urban land in Maryland and Virginia, is located below the fall line of major tributaries where the River Input Monitoring (RIM) stations are located. Therefore, runoff from small watersheds near the Bay with high levels of development or concentrated agriculture are not directly monitored. Because only the RIM stations are used to calibrate the watershed model,the uncertainty of significant inputs below the fall line adds a the level of inaccuracy to the model. This is methodology unfair to NY because NY's load is measureable load, whereas urban loading below the fall line is only estimated, which is unscientific and arbitrary.

The underestimation of urban load is compounded by model outputs which inexplicably show no change in nitrogen export from impervious urban land, when atmospheric deposition loads are lower in the future. Although the USEPA Region 3 Watershed model shows a substantial decrease in nontidal water deposition with atmospheric deposition controls in place, it

shows no change to the nitrogen load from impervious surfaces. Because a main source of nitrogen on impervious surface is atmospheric deposition, it would be reasonable to expect a decrease in the exported loads from these surfaces. There is negligible opportunity for any biological processing of wet deposition that falls on hard surfaces which are directly piped to streams. The Chesapeake Bay watershed model estimates the combined delivered load from impervious surfaces in just two states, Virginia and Maryland to exceed 3 million lbs N/year, so any inaccuracies are not insignificant, which biases the results by making NY appear to be a larger contributor.

EPA also attempts to use the model to estimate MS4 loads, by small watersheds, despite the issues above with estimates of the urban land area, and without any information on storm sewersheds (the land actually drained to the constructed conveyances (discharges) to which the permit would apply.) If EPA intends to increase requirements for MS4 to specify a load reduction, EPA should first document the areas directly drained through the MS4s. The estimation of MS4 loading is not only inaccurate but may be inconsistent with what NY requires in its MS4 General Permit.

EPA has been unable to Verify Calibration of the Model

EPA needs to acknowledge that the accuracy and precision of the Watershed model varies with scale. While the entire Susquehanna can be calibrated to a RIM station, the closest station for calibration of nutrients from New York is located at Towanda, PA, with just enough data to cover a ten-year timeframe. This station is not directly representative of load originating solely from NY as only about 80 per cent of the watershed contributory to this station is in NY. Subwatershed with USGS gages do allow some hydrologic calibration, but recent NY water quality data from the five Chesapeake Bay Program stations NY jointly maintains with the Susquehanna River Basin Commission should be used for validation. Has EPA conducted this verification and if so, what are results of how well the model predicted the monitored data? EPA should demonstrate that the Watershed model is properly calibrated by providing NY with verification that it compared real water quality data to modeled estimates of NY's nutrient loading in the Susquehanna and Chemung River basins. Without this demonstration by EPA, the model is not scientifically validated.

The Model's Delivery Factors are Unpredictable

New York has repeatedly questioned the functioning of delivery factors, such as the science behind changes in the Phosphorus delivery factor and some unanticipated variations in Nitrogen delivery factors as edge of stream (input) loads are reduced. The model now predicts that as the Susquehanna River becomes cleaner in Pennsylvania, more of New York's load is delivered to the Bay. EPA has yet to provide New York with a rational explanation or scientific justification for these changes in delivery factors. New York has requested that delivery factors be established and held constant to facilitate because variations in the delivery factors make it difficult for New York to assign suballocations for point and nonpoint sources.

C. Bay Water Quality, Sediment Transport Model (Appendix M)

I. Total Cap Load is Arbitrary & Capricious

EPA and the Bay states have used discretion in assigning the water quality standards for various segments of the Bay. Applying a marginally higher tolerance at a few small key spots, such as the Eastern Bay, which is clearly within EPA and the Bay states' limits of discretion, would yield a much higher allowable load to the Bay and as a result more fair and realistic load allocation for New York (For example, see Exhibit 3 as attached). Based upon demonstrations by EPA, NY offers the following descriptions of the total cap derivation.

1. EPA divides the Bay into 92 segments. Segments are horizontal (Main Bay versus Tidal Tributaries) and vertical (Open Water, Deep Water and Deep Channel). Oxygenation issues are mainly found in Deep Water and Deep Channel segments.

2. EPA proposes to establish the Bay TMDL with an overall nutrient loading of 187 million pounds/year Total Nitrogen (TN) and 12.52 million pounds/year Total Phosphorus (TP). At these levels, EPA models indicate that all Main Bay Deep Water and Deep Channel segments will attain Dissolved Oxygen standards.

3. EPA uses a general definition of attainment as meeting DO standards with a variance of 1.5% or less (1.5% is rounded down to 1%). EPA uses a variance of 1.5% or less because it judges this to be "within the noise of the models."

4. EPA allows for a greater level of variance when: a) historical data shows naturally occurring low DO, b) decreases in the overall TN and TP loadings to the Bay (including the "Everything by Everybody Everywhere" scenario: 141 TN, 8.5 TP) are used and the model response is a continuing level of nonattainment above 1.5%, or c) a higher variance already exists in state water quality standards.

5. As above-referenced in 4.), using three segments for comparison: Main Channel #4, Chester River, and Eastern Bay, EPA could re-balance its variance criteria without impacting the health of the individual segments or the overall Bay. This re-balancing would allow EPA to provide NY with more equitable allocations by raising the total cap.

    a. Main Channel #4: Under the 2003 allocation scenario (183 TN and 12.8 TP) MD established water quality standard variances for DO for this segment: Deep Water 7% and Deep Channel 2%. Now, using greater overall loadings (190 TN and 13 TP) and revised models, its Deep Water variance reduces to 5% and its Deep Channel stays at 2%.

    b. Chester River: At 190 TN and 13 TP, before the 2010 TMDL is established, MD will need to revise its DO variance for this Deep Channel segment to 14% (believed to be naturally occurring pollutant source: deep channel isolated from main bay; stays over 1.5% unless all forested.) If the DO variance threshold for

Chester River can be raised to 14%, EPA can apply this methodology to other segments that would benefit NY by raising the total cap.

c. Eastern Bay: At 190 TN and 13 TP, this Deep Water segment attains standards (it is also attains standards at very high loadings of 248 TN, 16.6 TP); the Deep Channel segment also attains standards. However, at 191 TN and 14.4 TP, the Deep Channel variance only increases to 2% (a less than 0.5% change).

6. As noted in 5.) a. & c. above, EPA could use the 2% improvement in Main Channel #4 (from 7% in 2003 down to 5% in 2010) as rational for allowing an increase in the Eastern Bay variance from 1% to 2%. This rationale is further supported by the Eastern Bay being adjacent to the Main Channel #4 (i.e., this boundary line is only a convenient artifact of mapping) and that by not doing so, EPA is, as a result, requiring additional nutrient reduction from the Susquehanna River in New York, when it acknowledges that its models "underestimate the contribution of nutrients from MD's Eastern Shore," which surrounds this embayment. In addition, MD should first enact stream standards for TP before the Susquehanna River is held responsible for this segment. The impact to the Eastern Bay could be shoreline septic systems which the model attributes zero phosphorus load.

7. Although increasing the Bay total from 190 to 191 TN does not appear very significant, the increase from 13 to 14.4 TP is extremely significant because the additional Phosphorus could be converted (using EPA ratio of 15:1) to 21 million pounds TN, which would raise the total Bay cap 10% and also NY's.

II. The Level Chosen for the TMDL is Arbitrary:

EPA did not run enough load scenarios showing relationship of N to P

- The one percent threshold should vary for the size of the segment, in that model is less precise for smaller segments, as demonstrated by need for variances in the Chester River.
- The Bay Model shows instability between May 2010 and the most recent runs shown in TMDL Appendix M. Because of this demonstrated instability the model results are suspect.
- DO problems in the Eastern Bay and CB4 get slightly worse with a million lb P reduction.
- Figure 6-9 does not conform to DO stoplight tables in Appendix M-1 of the TMDL. What other lines of evidence were beyond the Bay Water Quality Model were considered? Also, the Figure should show all model runs; it currently does not.
- EPA should have done more model runs, slightly above the cap to see if subtle increases in cap load could still meet water quality in all segments.
- The eleven side embayment segments that the model indicates would remain out of compliance at the cap load call into question either the applicability of the model for these small water bodies or the overall approach EPA used to test compliance. New York repeatedly requested model runs where load was removed from the watershed

directly tributary to the impaired segments, rather than removing load from the watershed as a whole. EPA used this approach in the James River to establish waterbody specific watershed targets, and should have pursued this in the Bay other watersheds first.

III. Other Water Quality/ Sediment Transport Problems

N:P Ratio is Unsupported by Science

New York has repeatedly requested a sensitivity analysis of N vs P reductions in the Susquehanna and Potomac loads to develop the optimal reduction of each nutrient in each of these river systems. Such finer scale analysis could support a higher total cap or allowable fluctuations between Nitrogen and Phosphorus. A Maryland scientist recommended a series of optimum ratios for smaller embayments, but EPA has not shown if and how they used these ratios.

Instead, EPA has relied on two other papers, which the TMDL states is based on the outdated model and water quality data that is 16 years old. The shape of the curve in figure 6-15 does not support the conclusions drawn. When more P is reduced, the TN:TP ratio goes up from 9, and does not go down. Further, the 5:1 TN:TP exchange ratio is based on a Chlorphyll concentration in Figure 6-16, which for most of the Bay is not the driving factor because it is not a direct representation of the DO water quality impairment in most of the Bay (at least the main bay where NY is contributory) The conservative trading ratios are arbitrary and not supported by the cited work, which concludes "an effective trade-off is one that would generally intensify an existing predominant nitrogen or phosphorus limitation." Although the 2009 reference does not look at the Susquehanna individually, it shows the upper Bay to be phosphorus limited. The asymmetrical trading ratio of a 5:1 TN:TP would discourage additional reductions of phosphorus.

Sediment Model Limitations

The Sediment component of the model was behind schedule, did not include analysis of sediment shed versus re-suspension or the effect of hardened shoreline, and is consequently inadequate for preparation of the TMDL in side embayments. Sediment source origins in side embayments are unclear. It is also unknown whether more reduction is needed from tributary watersheds, or whether there are other more holistic approaches such as shoreline habitat restoration. EPA appears not to have fully factored in sediment transport into the Bay Water Quality Model, showing that areas in the lower bay such as Eastern Bay (see recent Virginia Institute of Marine Sciences Submerged Aquatic Vegetation study) are not able to process nutrients as well. Because the model is not accurately accounting for localized sediment sources this has a detrimental effect on Bay recovery.

These apparent modeling limitations adversely impact NY because EPA then requires more universal load reductions, including nutrients from NY. Also, the allocation method (the relative effectiveness aspect) requires less reduction from Maryland's eastern shore because the model shows less benefit from load reductions to the main bay (because the load is processed in

these embayments, while resulting in deteriorated local water quality). The local water quality problems have adverse impacts on ecosystem and the ability of the entire bay to process nutrients and are not accounted for in the modeling.

The Model does not Address Filter Feeders

The TMDL does not account for changes in nutrient assimilative capacity that could occur if filter feeder populations are restored, either as a positive feed-back from cleaner water or a reduction in harvesting. The TMDL relies on a single initial study to discount other work showing a positive benefit from increases in filter feeder populations. NY maintains that states harvesting filter feeders should make up the negative effect such harvest has on assimilative capacity by meeting a lower allocation of nutrients. EPA should further investigate filter feeders in the Bay Water Quality and Sediment Transport Models to determine if the total cap should be raised commensurate with a full population of filter feeders. Raising the total Bay cap would obviously benefit NY.

EXHIBIT 1

Summary of Population, Wastewater Load, and Animal Number Trends within Chesapeake Bay Watershed, by State
1980 - 2009 (or available dates)

Population

Year	State							
	Delaware	D.C.	Maryland	New York	Pennsylvar	Virginia	West Virgi	Total
1980	58,082	638,333	4,169,213	654,499	3,162,409	3,911,705	158,672	12,752,915
1981	58,913	635,190	4,225,162	654,923	3,174,629	3,991,535	160,862	12,901,214
1982	59,744	632,046	4,281,111	655,347	3,186,849	4,071,365	163,052	13,049,513
1983	60,575	628,903	4,337,059	655,770	3,199,069	4,151,194	165,242	13,197,813
1984	61,405	625,760	4,393,008	656,194	3,211,289	4,231,024	167,432	13,346,112
1985	62,236	622,617	4,448,956	656,617	3,223,510	4,310,853	169,622	13,494,411
1986	63,067	619,473	4,504,905	657,041	3,235,730	4,390,683	171,812	13,642,711
1987	63,898	616,330	4,560,853	657,465	3,247,950	4,470,513	174,001	13,791,010
1988	64,729	613,187	4,616,802	657,888	3,260,170	4,550,342	176,191	13,939,309
1989	65,560	610,043	4,672,751	658,312	3,272,390	4,630,172	178,381	14,087,609
1990	66,390	606,900	4,728,699	658,735	3,284,610	4,710,001	180,571	14,235,908
1991	68,344	603,416	4,779,154	657,168	3,302,062	4,788,381	183,834	14,382,358
1992	70,297	599,932	4,829,608	655,601	3,319,513	4,866,760	187,097	14,528,808
1993	72,251	596,448	4,880,062	654,033	3,336,965	4,945,139	190,360	14,675,258
1994	74,204	592,964	4,930,516	652,466	3,354,417	5,023,519	193,623	14,821,708
1995	76,157	589,480	4,980,971	650,899	3,371,868	5,101,898	196,886	14,968,158
1996	78,111	585,995	5,031,425	649,331	3,389,320	5,180,277	200,149	15,114,608
1997	80,064	582,511	5,081,879	647,764	3,406,771	5,258,656	203,412	15,261,058
1998	82,017	579,027	5,132,334	646,196	3,424,223	5,337,036	206,675	15,407,508
1999	83,971	575,543	5,182,788	644,629	3,441,675	5,415,415	209,937	15,553,958
2000	85,924	572,059	5,233,242	643,062	3,459,126	5,493,794	213,200	15,700,408
2001	87,728	577,648	5,310,913	641,594	3,463,936	5,610,240	217,447	15,909,505
2002	89,452	579,190	5,369,144	641,270	3,474,576	5,701,965	221,730	16,077,327
2003	91,430	577,467	5,428,872	639,472	3,486,589	5,787,869	227,571	16,239,270
2004	93,436	579,621	5,472,193	637,684	3,500,984	5,879,430	232,951	16,396,299
2005	95,749	582,049	5,507,740	634,326	3,517,305	5,968,556	239,031	16,544,756
2006	97,983	585,459	5,536,267	633,356	3,542,108	6,044,335	245,385	16,684,893
2007	100,208	588,292	5,552,387	632,413	3,561,930	6,111,783	250,118	16,797,132
2008	102,052	591,833	5,567,636	629,767	3,573,605	6,165,610	253,249	16,883,751

Note: Population data for 1980, 1990, 2000 based on the US Census. Years in between these dates are annual interpolations.
2001 - 2008 based on U.S. Census Population Estimates and are not interpolated.

Summary of Population, Wastewater Load, and Animal Number Trends within Chesapeake Bay Watershed, by State 1980 - 2009 (or available dates)

Municipal Wastewater Flow (mgd)

Year	State						
	Delaware	D.C.	Maryland	New York	Pennsylvar	Virginia	West Virginia
1980							
1981							
1982							
1983							
1984							
1985	1.87	170.54	375.44	62.49	262.92	430.80	6.72
1986	1.87	152.21	387.42	62.49	277.75	440.57	6.77
1987	1.87	158.81	395.87	62.49	289.86	479.31	6.75
1988	1.87	157.87	416.84	62.49	293.27	479.39	6.77
1989	1.87	169.97	480.51	62.49	305.38	527.65	6.76
1990	1.87	174.12	466.84	62.49	317.49	496.58	6.76
1991	1.87	157.48	439.82	62.49	329.60	477.67	6.80
1992	1.45	158.77	454.04	65.94	341.71	500.47	6.58
1993	1.47	167.62	495.49	70.94	353.82	538.29	7.79
1994	1.62	170.02	503.10	73.20	365.93	548.61	7.80
1995	1.44	164.46	463.05	57.82	378.10	518.59	6.88
1996	1.57	170.10	548.83	78.83	366.59	589.32	9.34
1997	1.09	176.50	474.28	61.36	295.62	535.33	7.32
1998	1.55	171.15	489.16	70.25	314.81	582.88	8.06
1999	1.46	160.48	458.68	57.12	281.90	548.68	6.35
2000	1.62	166.44	479.55	64.97	291.49	561.76	6.87
2001	1.56	164.12	473.37	56.85	260.66	526.40	7.57
2002	1.56	160.54	468.02	63.31	276.10	536.36	8.59
2003	1.88	191.04	615.95	74.73	358.25	683.93	13.20
2004	1.52	170.44	554.83	75.48	342.75	628.94	11.21
2005	1.59	162.14	538.63	68.95	309.37	603.36	11.41
2006	1.68	149.68	572.09	72.27	302.83	606.28	11.31
2007	1.73	148.29	573.01	71.71	309.14	607.16	12.62
2008	1.58	141.77	550.25	69.26	312.89	575.43	13.09
Design Flow	3.50	161.40	823.04	90.50	548.31	1,001.11	16.44

Note: 1) Phase 4.3 data are used, which include mainly significant WWTP data. Only MD has reported non-significant municipal plants in phase 4.3. One time estimated non-significant municipal data for other states used in phase V model are not included.

2) Blue Plains flows are allocated among MD, DC and VA.

EXHIBIT 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY 21 2010

MAY 2010

Mr. Mark Klotz, Director
Division of Water
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-3500

Subject: **State Technical Standards for Concentrated Animal Feeding Operation**

Dear Mr. Klotz:

Thank you for providing information regarding your CAFO program over the course of the last year. EPA is now initiating an effort to provide contractor support to review your technical standards for completeness.

I am writing to ask the New York State Department of Environmental Conservation to work together with EPA to ensure that New York has the technical standards needed to ensure proper implementation of the concentrated animal feeding operations (CAFOs) National Pollutant Discharge Elimination System (NPDES) rules. Each State Director was required by 40CFR 123.36 to establish technical standards that meet the requirements of 40CFR Part 412.4(c)(2) within one or two years of the date of promulgation of the 2003 CAFO regulations. While this requirement was established by the 2003 CAFO rule, it is all the more important following the promulgation of the 2008 rule, since these standards form the basis for critical elements of the site-specific "terms of the NMP" for each CAFO covered by an NPDES permit.

As part of EPA's oversight responsibility of the State NPDES programs for CAFOs, the Water Permits Division in EPA's Office of Water will review all State approved technical standards. EPA plans to complete this national review of State technical standards by December 31st, 2010. We are asking each State to provide to their respective Regions, written confirmation identifying your technical standards along with a copy of the applicable technical standards by June 15th, 2010. Only those documents which are identified by the Director and submitted by you will be used in EPA's review. I have attached for your information, the criteria which will be used to evaluate and review all standards across the country. (Note: This is a checklist to be used by contractors during the review).

Following the review, EPA will provide feedback to New York on the sufficiency of their standards. Suggestions and guidance for addressing any inadequacies will be provided to revise existing standards or incorporate necessary additional documentation. Where standards are established as regulations or in permits, which may not be revised prior to the December 31, 2010 deadline, EPA will expect States to address any necessary actions. We would like to work with you to not only ensure the adequacy of technical standards, but to make them publicly available as well.

Thank you for the effort you and your staff are making to assure that technical standards are in place, adequate and approved. If you have any questions or need additional clarification, please contact Andrea Coats of my staff at (212)-637-3850.

Sincerely yours,

Jeffrey F. Gratz, Chief
Clean Water Regulatory Branch

Enclosure

cc: Jacqueline Lendrum, Division of Water, Bureau of Water Permits,
New York State Department of Environmental Conservation (w/enclosure)

EXHIBIT 3

New York State Department of Environmental Conservation
Assistant Commissioner
Office of Water Resources, 14th Floor
625 Broadway, Albany, New York 12233-1010
Phone: (518) 402-2794 • **Fax:** (518) 402-8541
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Sent via Email and First-Class Mail

October 12, 2010

John Backus
Chief, WQS, Assessments and Dredging Section
Maryland Department of the Environment
1800 Washington Blvd, Maryland 21230
jbackus@mde.state.md.us

Re: Chester River Restoration Variance, Severn River Deep Channel Use and Pocomoke River Site-Specific Dissolved Oxygen Criteria

Dear Mr. Backus:

Thank you for this opportunity to comment on the State of Maryland Department of the Environment's Notice of Proposed Action to Amend Water Quality Standards, which involve the proposals listed above and provides for a public comment period closing on October 12, 2010. As you may know, the State of New York is now taking an active interest in these and other water quality standards proposed for the Chesapeake Bay and its tidal tributaries because the United States Environmental Protection Agency is in the process of establishing a Total Maximum Daily Load ("TMDL") that will impact the entire Chesapeake Bay watershed, including New York. This TMDL will propose to create obligations in the Susquehanna and Chemung River Basins located in New York and will likely be based on the proposed water quality standards for dissolved oxygen developed by the State of Maryland, among others.

The implications of this TMDL are significant to the State of New York, making it incumbent on the New York State Department of Environmental Conservation to evaluate Maryland's proposed water body classifications and dissolved oxygen water quality standards. The significance is heightened because even small changes to the Chesapeake Bay area water quality standards will likely result in large differences in the nutrient reduction EPA is proposing to require from New York under the draft TMDL.

We appreciate the collaborative and close partnership that we have with the State of Maryland, and our comments in this letter recognize that due to the EPA's proposal, we are now linked to the steps Maryland proposes to take. As we are addressing these issues it would be helpful for us to better understand the basis for your proposed actions. Accordingly, we offer the following comments and questions:

- What is the process used by the State of Maryland to develop, assess and set nitrogen to phosphorus ratios in each embayment/tidal river.

- What factors were taken into account by the State of Maryland when excluding other potential non-natural sources of nutrient impairment before proposing a standard modification or variance.

- To what extent did the State of Maryland examine sources of potential reductions in phosphorus loading in watersheds of the impaired tributaries that are the subject of this proposed action.

- Has the State of Maryland issued a variance for the Eastern Bay? If not, please provide the basis for this decision. Also, please provide an explanation regarding the criteria used to segregate the Eastern Bay from adjacent waters of Chesapeake Bay.

- What is the timeline and process for the State of Maryland to develop and adopt nutrient water quality standards for flowing waters, including those tributary to the above listed tidal waters?

We look forward to receiving your response. Thank you.

Sincerely,

Jim Tierney

James M. Tierney